The Rise of the High School in Massachusetts

by

Alexander James Inglis

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THE RISE OF THE HIGH SCHOOL IN MASSACHUSETTS

BY

ALEXANDER JAMES INGLIS, PH.D.

TEACHERS COLLEGE, COLUMBIA UNIVERSITY
CONTRIBUTIONS TO EDUCATION, NO. 45

PUBLISHED BY
Teachers College, Columbia University
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INTRODUCTION

The development of the high school in the United States has before this been treated by numerous writers on education. For the most part, however, the subject has been treated by these writers in a general way in connection with other educational institutions, or in connection with certain prominent schools. While these individual institutions may be considered as the pioneers in the field, a study of them alone cannot give a comprehensive view of the work of the high school as a whole, nor can the real scope of public secondary education be estimated and understood from a consideration of a few individual institutions. Thus the study of such a school as the English Classical (High) School of Boston gives us very valuable data, but if we attempt to generalize on the development of the high school in Massachusetts from the schools of Boston alone we should get an altogether misleading conception of the work of the high school in that state. Likewise a study of such institutions as the Central High School of Philadelphia or that of Baltimore is undoubtedly of great value, but the history of those two institutions shows clearly that they cannot be considered as representative of the high school in general.

No complete examination of any large group of high schools for the early period has ever been made. Even the number of high schools established in the various parts of the country during the early period has been a matter of dispute. Thus Dr. Harris, the late Commissioner of Education, who probably devoted as much attention to this subject as any other up to that time, stated in 1901: "The number of high schools in the United States in 1860 was about forty."[1] On this topic Dr. Elmer E. Brown has this to say: "How many schools of this class were in existence previous to the Civil War, it would be hard to say. According to Barney's "Report on the American System," there were eighty

[1] Proc. N. E. A., 1901, p. 175.

such schools in 1851. One year later, there were sixty-four reported in Massachusetts alone. Ohio is said to have had ninety-seven in 1856. Other states were already making considerable progress in the building up of such institutions. Dr. Harris's estimate of forty high schools in the whole country in 1860 was doubtless reached through a winnowing process."[2] Just what this "winnowing process" of Dr. Harris was it is difficult to understand. Much would, of course, depend on the interpretation of the term "high school" but it would appear that any reasonable interpretation of that term would include in the list of high schools many more than the number which Dr. Harris gave. In Massachusetts alone by 1860 one hundred and two towns claimed to have established high schools and at the lowest possible estimate sixty-three show by their actual courses of study a curriculum which covered from three to five years and which contained all of the studies commonly considered as appropriate to high school work.[3]

The present discussion has for its aim a consideration of the high schools in Massachusetts up to the beginning of the Civil War. The final limit is a more or less arbitrary one, but by 1860 it may be said that the high school in Massachusetts had assumed a stable position in the educational system of the state. By that time the legal requirements regarding the establishment of high schools had met with a fair degree of compliance, the list of studies prescribed by law for high schools had assumed a form which was destined to remain unchanged in its fundamental requirements for the rest of the nineteenth century, the graded system of schools was well under way, the academy had begun to give way to the public high school as the pre-eminent institution of secondary education, and a favorable attitude on the part of the public toward the public high school had been created.

The data on which the discussion is based are, for the most part, those given in the reports, regulations, etc., of the school committees of the various towns of the Commonwealth. Of this material practically every report of every town in Massachusetts from 1838 to 1863 has been examined. The reports of the several towns previous to 1838 were not filed with the state department and hence were not so easily accessible. Of such towns as main-

[2] The Making of Our Middle Schools, pp. 313-314.
[3] Cf. pp. 38, 82-83, 97-98.

tained secondary schools previous to 1838 all reports except a few which seemed inaccessible were examined. Several thousand reports, many of them in manuscript, were thus examined. Only in this way did it seem possible to secure the information which would offer a view of the real work of the high schools.

A. J. I.

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THE RISE OF THE HIGH SCHOOL IN MASSACHUSETTS

CHAPTER I

THE EDUCATIONAL SITUATION IN MASSACHUSETTS PREVIOUS TO 1827

The high school in Massachusetts had its beginning in the third decade of the nineteenth century. Within that period fall the establishment of the English Classical (High) School of Boston in 1821, the founding of the Boston High School for Girls in 1826, and the passage of the act in 1827 which formed the basis of all subsequent legislation affecting the high school in Massachusetts.

In a wider sense, however, we must trace the origin of the Massachusetts high school and secondary education in the nineteenth century back to an earlier period, and, to gain a conception of the meaning and extent of the change then brought about, we must examine the conditions prior to the nineteenth century and antecedent to the beginning of the high school movement proper. Such an examination will involve some consideration of the colonial Latin grammar school and of the academies which practically dominated secondary education at the beginning of the nineteenth century, together with a consideration of the public school system in general. No exhaustive treatment of these movements can be attempted here, but sufficient attention must be given to them to afford a knowledge of the situation immediately preceding the period with which this discussion is concerned.

1. The Latin Grammar School

It is generally stated, and there can be little doubt as to the correctness of the statement, that the Latin grammar school of the colonial period in Massachusetts was, in its general aim and economy, and in the subject matter of its curriculum, an outgrowth of the grammar school of England. Unfortunately the data regarding the early Latin grammar school in this country are very meagre and fragmentary so that any exact analysis of the school and its workings is impossible. Such data as there are

show clearly the debt of the Massachusetts grammar school to its prototype in England. The existing data have been presented so often that it would be out of place to attempt to reproduce them here.[1] It will perhaps be sufficient for our purposes to give a comparison of a scheme of the books used in the Westminster School about 1660 and one of the earliest known programs of the Boston Public Latin School adopted October fifteenth, 1789. The difference of time is not so important as would seem at first sight, inasmuch as the general economy and the subject matter of the grammar school of England and that of Massachusetts did not change much during the entire colonial period of Massachusetts.

WINCHESTER SCHOOL, ABOUT 1600.[2]

First Form:
- Disticha of Dionysius Cato.
- Exercitatio Linguae Latinae (Vives).
- Dialogues and Confabulationes of Corderius.

Second Form:
- Terence.
- Aesop's Fables (in Latin).
- Dialogi Sacri.
- Colloquies of Erasmus.

Third Form:
- Terence.
- Sallust.
- Selections of Cicero's Letters (Sturmius).
- Aesop (in Latin).

Fourth Form:
- Terence.
- Sallust.
- Ovid's Tristia.
- Cicero's De Officiis.
- Greek—Lucian's Dialogues.
  Grammar (Clenard's).

Fifth Form:
- Justin.
- Cicero's De Amicitia.
- Ovid's Metamorphoses.
- Greek—Isocrates.
  Plutarch.

BOSTON LATIN SCHOOL, OCT. 15th, 1789.[3]

1st Class:
- Cheever's Accidence.
- Corderius's Colloquies—Latin and English.
- Nomenclator.
- Aesop's Fables—Latin and English.
- Ward's Latin Grammar, or Eutropius.

2d Class:
- Clarke's Introduction—Latin and English.
- Ward's Latin Grammar.
- Eutropius, continued.
- Selectae e Veteri Testamento Historiae, or,
- Castilio's Dialogues.
- The making of Latin, from Garretson's Exercises.

3d Class:
- Caesar's Commentaries.
- Tully's Epistles, or Offices.
- Ovid's Metamorphoses.
- Virgil.
- Greek Grammar.
- The making of Latin, from King's History of the Heathen Gods.

[1] Watson, Foster, The English Grammar Schools to 1660; Jenks, Henry F., The Boston Public Latin School; Littlefield, George E., Early Schools and School-books of New England; Brown, Elmer E., The Making of Our Middle Schools, 1-154.

[2] Sargeaunt, John, Annals of the Westminster School, page 39.

[3] The System of Public Education, Adopted by the Town of Boston, 15th October, 1789, page 2; quoted by Jenks, Henry F., The Boston Public Latin School, page 287.

Sixth and Seventh Forms:
Caesar.
Livy.
Virgil.
Greek—Demosthenes.
Homer.

4th Class:
Virgil, continued—Tully's Orations.
Greek Testament.—Horace.
Homer.—Gradus ad Parnassum.
The making of Latin continued.
N. B.—In 1773 the school was divided into seven classes. Cf. Jenks, Henry F., Boston Public Latin School, page 36. Likewise in 1788. Cf. Jenks, page 43.

The history of the growth of the Latin grammar school in Massachusetts begins with the establishment of the school in Boston in 1635. A short résumé of the principal facts of the history of the grammar school will set the main points before us.

In 1647 the famous act was passed which made the establishment of Latin grammar schools mandatory in all towns having a population of one hundred families or householders or over. Before that date, however, six towns besides Boston had already established grammar schools. These were Salem (1637), Charlestown (1636), Dorchester (1639), Cambridge (1640-43), Roxbury (1645), and Braintree (1645-46). Before 1700 the following eighteen towns were probably added to the list: Watertown (1650), Ipswich (1651), Dedham (1653), Newbury (1658 or 1687), Northampton (1667), Hadley (1667 or 1681), Hingham (1670), Plymouth (county 1671, town 1699), Duxbury (1677), Rehoboth (1678), Concord (1680 or 1690), Bristol (1682), Barnstable (1682-85 perhaps), Taunton (1682 or 1697), Woburn (1685, unsuccessful), Lynn (1687 or 1700), Marblehead (1698, doubtful), Sandwich (1699, doubtful).[4]

"At this time (1700) there were eighty-one towns in Massachusetts. The census of 1765 in Massachusetts showed 184 towns, of which only eighty-one had over a thousand inhabitants. From this it might be inferred that the proportion of towns having grammar schools in 1700 was as large as it should be—that, in fact, towns had generally complied with the law. But another view is obtained from a list of the polls given in by twenty towns in Middlesex County in 1708. Nine of the twenty showed more than one hundred families, but only five had attempted a grammar school, and but four had succeeded in its establishment."

During the eighteenth century most of the schools above men-

[4] Figures taken from Small, Walter H., The New England Grammar School, 1635-1700: *School Review,* Sept. 1902, Vol. X, No. 7, pages 513-531, and corroborated in general from various sources.

tioned were continued. Attempts to establish town schools in other towns were in general unsuccessful or carried through only with the greatest difficulty and in the face of much opposition. An account of the struggle for the establishment and maintenance of such schools is given in the *School Review* for January, 1906.[5] The period is one of constant endeavor on the part of towns to evade the mandate of the law and on the part of the state to enforce the law by increasing the penalty for non-compliance and by indictments brought for non-maintenance. Here mention is made of the following towns which were indicted for not maintaining grammar schools: Woburn (1700, 1706), Duxbury (1709, 1731, 1737), Andover (1713), Haverhill (1702, 1751), Malden (1710, 1715, 1719), Groton (1718, 1722), Weymouth (1785), Newton (1762), Amesbury (1722, 1757, 1778), Hardwich (1747, 1758, 1767), Framingham (1717).

Meantime the essential characteristics of the law of 1647 had remained in force, with little change except in the matter of penalty for non-compliance, until 1789 when the act cited in part on pages 26 ff. was passed. In this law there were two provisions which vitally affected the Latin grammar school. The number of families requisite to make the establishment of a grammar school mandatory was increased from one hundred to two hundred and the district school system was sanctioned.

By the older law, according to the census of 1790, some two hundred and thirty out of two hundred and seventy towns were required to support grammar schools. By the new law, according to the same census, one hundred and seventeen towns were exempted from this obligation, leaving one hundred and thirteen towns still subject to the requirements of the law. The figures for the census periods up to the time of the high school movement are given below. The figures are compiled from the returns of the United States census for the years indicated.[6]

TABLE I

	1790	1800	1810	1820
No. of towns required to maintain Latin Grammar Schools	113	129	143	172
No. of towns in the state	270	278	288	302

[5] Small, Walter H., The New England Grammar School, 1700-1800, *School Review*, Vol. XIV., No. 1, pages 42-56.

[6] These data are summarized in the Massachusetts Census for 1865, pp. 180 ff. The basis for estimation taken is 200 families = 1,200 inhabitants.

In the article above quoted Mr. Small makes the following statement: "Meantime (previous to the law of 1789) the term 'grammar school' had practically disappeared from use, the district-school had taken away the central authority, the old form of school had been forgotten, and there was fastened upon the state the district-school system, which required fifty years of strenuous effort to dislodge. The grammar school had practically disappeared from New England at the end of the eighteenth century." This statement is probably too strong. Many of the towns mentioned on page 3 still continued to maintain grammar schools until the beginning of the nineteenth century. The final blow which apparently drove the Latin grammar school out of existence was the law of 1824 which practically exempted all but seven towns in the state from the necessity of maintaining such schools. Nevertheless there can be little doubt that the Latin grammar school, as a type of secondary education which represented the needs and desires of the people of the commonwealth, was practically an institution of the past and that to its subsidence the district schools system greatly contributed. It should be remembered, however, that toward the end of the eighteenth century there came the rapid rise of the academy which in great degree supplanted the Latin grammar school as the institution for secondary education in Massachusetts. Whether the decline of the Latin grammar school was the cause or the effect of the rise of the academy may perhaps be a question, but it should be noted in this connection that the grammar school was well on its way to disappearance by the beginning of the academy movement in Massachusetts.

Notwithstanding the decline of the grammar school there remained several institutions of this type at the beginning of the nineteenth century. Chief among these was the Boston Latin School. The curriculum of this school in 1789 has already been given. Within the colonial period little change had developed in the curriculum, which, as has been seen, was exclusively composed of the study of Latin and Greek. A program of studies appointed for this school at about the beginning of the nineteenth century[7] shows the introduction of no new subject for study,

[7] The System of Public Education Adopted by the Town of Boston, undated but probably about 1804.

merely varying slightly the Latin and Greek authors read. The first addition to the straight course of Latin and Greek came some time during the headmastership of Gould (1814-1828):[8] "The study of arithmetic is commenced the latter part of the third year, or the beginning of the fourth, with Colburn's 'First Lessons.' Recitations in this are made two or three times each half day by those who are studying it." "The same system of advancing from particular examples to the general rule is observed in teaching Lacroix's Arithmetic and Euler's Algebra." . . . "In Geometry the diagrams of Euclid are taken off . . ." "Worcester's Geography is the text book in that branch." Trigonometry was also included in this program.

The following curriculum, taken from the Regulations of the School Committee of Boston for 1826, page 7, will represent the work of the Latin grammar school at its best at the time of the beginning of the high school movement:

Public Latin School. Admission and Studies.

For admission to the Public Latin School, boys must be at least nine years old; able to read correctly and with fluency, and to write a running hand; they must know all the stops, marks, and abbreviations, and have sufficient knowledge of English Grammar to parse common sentences in prose. The time of examination is on Friday and Saturday following the Annual Exhibition of the Public Schools in August. The regular course of instruction lasts five years, and the school is divided into five classes according to the time of entrance.

FIFTH CLASS

First Year

1. Adam's Latin Grammar.
2. Liber Primus, or the Latin Reader, 1st Part.
3. Viri Romae, and reading English.

FOURTH CLASS

Second Year

1 and 3 continued.

4. The Fables of Phaedrus, } or the Latin Reader, 2d Part
5. Caesar's Commentaries. } instead of these two.
6. Cornelius Nepos.
7. Writing Latin Exercises, from Dana's Latin Tutor.
8. Declamation, Reading, and English Grammar.

[8] Account by Headmaster Gould in the Prize Book, quoted by Jenks, Henry F., Boston Public Latin School, page 60.

Third Class

Third Year

1, 7, and 8, continued.

9. Mythology, (Tooke's Pantheon, or Irving's or Pinnock's Catechism).
10. Arithmetic, (Colburn's Intellectual, Lacroix's Written).
11. Ovid's Metamorphoses, Expurg. edition.
12. Greek Grammar, (Gloucester Gr.).
13. Valpy's Greek Delectus.
14. Sallust.

Second Class

Fourth Year

1, 7, 8, 12, continued.

15. Grecian and Roman Antiquities.
16. Ancient and Modern Geography, with the use of the Globes, (Worcester's).
17. Euler's and Colburn's Algebra.
18. Virgil; with English Notes, but without Order of Construction.
19. Cicero's Select Orations.
20. Gr. Minora and Jacob's Gr. Reader, with Neilson's Greek Exercises.
21. Writing translations from Latin and Greek, into English, and Committing to memory select portions of Latin and Greek.

First Class

Fifth Year

1, 8, 12, 16, 18, continued.

22. English Composition, Forensic Discussions; Geometry, Trigonometry, with its uses.
23. History and Chronology, Constitution of the U. S. A., and of Mass.
24. Writing Latin, from Latinae Elegantiae; and composing Latin Themes.
25. Horace, Expurgated. Juvenal and Persius, Expurg.
26. Cicero de Officiis; De Senectute; De Amicitia; Tacitus' Germany and the Life of Agricola.
27. Greek Testament, Xenophon's Anabasis; Mattair's Homer; Books for reference and occasional use; The Greek Lexicon of Scapula, Hedericus, and Pickering, Morall's Thesausus, Ainsworth's larger Dictionary, Lat. and Eng., Adam's Lat. Dict., Adam's and Kenet's Roman Antiquities, Potter and Robinson's Greecian Antiquities, Lempriere's Class. Dictionary, etc., etc.

From this program it will be seen that by the time of the passage of the act of 1827 there had been added to the purely classical curriculum of the colonial Latin grammar school, at least in Boston, the following subjects: Arithmetic, geography, history, algebra, geometry, and trigonometry, together with considerable work in English. Of these subjects, the first two, arithmetic and geography, were by the law of 1827 required in the lower schools, and history, algebra, and geometry were required in the higher schools. Trigonometry was never required, surveying taking its place.

2. The Academy

The academy movement in Massachusetts had its beginning in the establishment of the Dummer Academy at South Byfield and of the Phillips Academy in Andover. Although the former was not incorporated until 1782 its history begins with the legacy of Lieutenant-Governor Dummer in 1761 and the opening of the school in 1763. Of the Phillips Academy at Andover the endowment was established by the execution of a deed of gift by Samuel and John Phillips on April 21, 1778. The school was opened on the thirtieth of that month and on October 4, 1780 the academy was incorporated.

Within ten years after the incorporation of the Phillips Andover Academy six academies had been incorporated in the state and by 1800 seventeen had been chartered. These were as follows (the dates given are those of the incorporation): [9]

Phillips (Andover, 1780).
Dummer (South Byfield, 1782).
Leicester (Leicester, 1784).
Derby (Hingham, 1784).
Williamstown Free (Williamstown, 1785).
Ipswich Grammar School (Ipswich, 1787).
Bristol (Taunton, 1792).
Marblehead (Marblehead, 1792).
Plymouth (Plymouth, 1793).
Westford (Westford, 1793).

[9] Walton, George A., Report on Academies, Fortieth Annual Report of the Massachusetts Board of Education, Appendix E, pages 175-347.

Westfield (Westfield, 1793).
Groton [10] (Groton, 1793).
New Salem (New Salem, 1795).
Deerfield (Deerfield, 1797).
Milton (Milton, 1798).
Framingham (Framingham, 1799).
Bridgewater (Bridgewater, 1799).

Previous to 1797 but three academies in Massachusetts (considering only the present boundaries of the state) had received any aid from the Commonwealth beyond the mere rights and privileges of legal existence. These were Leicester, Marblehead, and Taunton, each of which had received a grant of a township in Maine. In that year other academies in Massachusetts petitioned the Legislature for endowments and a committee was appointed to consider these petitions and to outline a plan of the public policy in behalf of the incorporated academies. This committee reported February 27th, 1797.

"On a general view of this subject, the committee are of opinion that the system hitherto pursued, of endowing academies with State lands, ought to be continued, but with several material alterations; first, that no academy (at least not already erected) ought to be encouraged by government unless it have a neighborhood to support it of at least thirty or forty thousand inhabitants, not accommodated in any manner by any other academies, by any other college or school answering the purpose of an academy; secondly, that every such portion of the Commonwealth ought to be considered as equally entitled to grants of State lands to these institutions, in aid of private donations; and thirdly, that no State lands ought to be granted to any academy but in aid of permanent funds." [11]

In this same report it was recommended that half a township of six miles square of land in Maine be granted to each academy which met certain conditions regarding funds.

From this action on the part of the Legislature it would appear that the academy was recognized as early as 1797 as fulfilling

[10] After 1847 the corporate name was Laurence Academy.
[11] Report of the committee, quoted Fortieth Annual Report of the (Massachusetts) Board of Education, pages 207-209.

to some degree the function of a quasi-public educational institution and as one deserving public support.

"The following principles appear to have been established, as determining the relations of academies to the Commonwealth. They were to be regarded as in many respects, and to a considerable extent, public schools; as a part of an organized system of public and universal education; as opening the way, for all the people, to a higher order of instruction than the common schools can supply, and as a complement to them. Towns, as well as the Commonwealth, were to share, with individuals, the character of founders, or legal visitors of them. They were to be distributed, as nearly as might be, so as to accommodate the different districts or localities of the State, according to a measure of population; that is, 25,000 individuals. In this way, they were to be placed within the reach of the whole people, and their advantages secured, as equally and effectively as possible, for the common benefit." [12]

In considering this last question it should be remembered that, while tuition was commonly charged at these academies, it was frequently but nominal and seldom amounted to very much. The circumstance which put the academy out of the reach of most people was that pupils in most cases could not live at home.

By 1820 nineteen more academies had been incorporated in Massachusetts—an average of about one a year—making in all thirty-six academies incorporated in the state up to that date. During the following decade thirty-two such institutions were incorporated, making a total of sixty-eight within the period from 1780 to 1830. Of this number fifty-six were enumerated by the *Quarterly Register* [13] as in operation in 1830.

The following table compiled from data given in the Fortieth Report of the Massachusetts Board of Education [14] will indicate the growth of the academy movement in Massachusetts:

[12] Report of the Standing Committee on Education, March 30, 1859. Quoted Fortieth Annual Report of the (Massachusetts) Board of Education, page 209.

[13] *Quarterly Register* and *Journal of the American Educational Society*, Vol. II, 1830, pp. 232-233.

[14] Walton, George A., Report on Academies, *loc. cit.*

TABLE II

INCORPORATION OF ACADEMIES IN MASSACHUSETTS 1780-1875

Date	Number	Date	Number
1780-1785	5	1826-1830	28
1786-1790	1	1831-1835	32
1791-1795	7	1836-1840	14
1796-1800	4	1841-1845	11
1801-1805	7	1846-1850	10
1806-1810	4	1851-1855	14
1811-1815	2	1856-1860	5
1816-1820	6	1861-1865	4
1821-1825	4	1866-1870	6
		1871-1875	5
Total 1780-1875			169

From these figures, so far as may be judged merely from the facts of incorporation, it would appear that the period of greatest growth of academies was the decade 1826–1835, sixty academies being incorporated within those ten years as compared with forty within the preceding forty-five years and sixty-nine during the succeeding forty years.

If we return now to the question of the relation of the Latin grammar school and the academy, we find that:

1. The Latin grammar school had ceased to exist except in a few of the older and larger towns before the end of the eighteenth century.

2. The academy, beginning during the last quarter of the eighteenth century, did not exert its greatest influence until the beginning of the second quarter of the nineteenth century.

It would seem, therefore, that, while there doubtless was a certain amount of reciprocal relation between the downfall of the Latin grammar school and the growth of the academy, the latter was not primarily the cause of the fall of the grammar school but the natural result of a lack of public support of secondary education, a conclusion which is, perhaps, borne out by the fact that nearly all of the early academies were established in localities where there were no opportunities for secondary education supported by the public.[15]

The scope of the curriculum of the Phillips Andover Academy

[15] See the list of academies incorporated before 1820 given by Walton (*loc. cit.*), and the comment of Carter, James G., Essays on Popular Education (1826), p. 32.

was outlined in the constitution adopted by Samuel and John Phillips (pages 10, 12): "There shall be taught in this Seminary the English, Latin, and Greek Languages, Writing, Arithmetic, Music, and the Art of Speaking; also practical Geometry, Logic, and any other of the liberal Arts and Sciences, or Languages, as opportunity and ability may hereafter admit, and as the trustees shall direct."

It will thus be seen that from its very inception the Andover Academy aimed to afford a broader curriculum than the Latin grammar school had offered. As we have seen the latter school confined its attention to the study of Latin and Greek, with some little attention during the late period to English. Arithmetic did not find a place in the curriculum of the Boston Latin School until the beginning of the eighteenth century, followed a little later by history, geography, algebra, geometry, and trigonometry. Music, logic, and science were altogether new conceptions in the field of secondary education in Massachusetts and had never been found in the curriculum of the Latin grammar school.

In the Leicester Academy[16] provision was in the beginning made for a "Preceptor in the Greek and Latin Languages," and a "Teacher of English, Writing, Arithmetic, etc." Geography, rhetoric, and grammar early formed a part of the curriculum, and in 1813 chemistry was taught. Throughout the early period the Latin and Greek studies were much the same as those in the Latin grammar school.

In 1824 a new system of instruction was introduced in the Leicester Academy by dividing the school into two departments, an upper and a lower school. Aside from the classical studies, the studies in the lower school were: First Class Book, Worcester's Ancient and Modern Geography, Murray's Grammar, Walker's Dictionary, Colburn's and Adam's Arithmetic. In the upper school the non-classical studies were: Lacroix's Arithmetic, Euler's Algebra, Blair's Rhetoric, Whelply's Compend of History, Hedge's Logic, Legendre's Geometry, Flint's Surveying, Conversations on Intellectual Philosophy, Wilkin's Astronomy, Conversations on Chemistry, Watts on the Mind. French was introduced into the curriculum of the academy before 1828.[17]

[16] Washburn, Emory, Brief Sketch of the History of Leicester Academy, pp. 19-34.

[17] Washburn, Emory, *loc. cit.*

"An advertisement dated April 8, 1822, appeared in the *Sun* of the 10th of that month announcing that the Pittsfield Academy was now organized . . . and that the course of instruction would include the Latin and Greek languages, reading, writing, English grammar, history, rhetoric, logic, composition, geography, drawing of maps, arithmetic, bookkeeping, algebra, geometry, trigonometry, surveying, navigation, natural and moral philosophy, and astronomy; . . ." [18]

While the introduction of many new subjects into the field of secondary education was due to the academies, it must not be supposed that the latter neglected preparation for college. On the contrary this was constantly an important factor in the work of the academies, though it has often been overlooked because of the importance of the new phases, apart from college preparation, which it introduced. "The academy was made strictly subordinate to the college and preparatory thereto in its range of studies, while one of its great objects was to supplement and extend the means of popular education." [19]

Higher education for girls was practically unprovided for in Massachusetts during the colonial period. In Dorchester the question had been raised at the time of the founding of the town school but it evidently did not result in any provision for the education of girls. In 1784 the girls of that town were permitted to attend the grammar school in the summer.[20]

Of the earlier academies the Dummer Academy was originally exclusively for boys and was not open to girls until well into the nineteenth century. Phillips Andover Academy has always been a boys' school exclusively. Leicester Academy, incorporated and opened in 1784, was coeducational from the start.[21] In the Westford Academy, opened in 1792 and incorporated in 1793, provision was made in the first articles of organization for the admission of pupils of both sexes.[22] The Bradford Academy, opened in 1803 and incorporated in 1804, was at its beginning coeducational and so remained until 1836 when it became a school for girls only.[23] The Ipswich Female Seminary, opened in 1825 and in-

[18] Smith, J. E. A., The Public School System of the Town of Pittsfield, reviewed from 1761 to 1880, p. 13.
[19] Fortieth Annual Report of the (Mass.) Board of Education, page 193.
[20] *Amer. Jour. of Ed.*, XVII, page 105.
[21] Fortieth Annual Report of the (Mass.) Board of Education, page 235.
[22] *Ibid.*, page 242.
[23] *Ibid.*, page 263.

corporated in 1828, was at first exclusively for girls. Later it was opened to pupils of both sexes. In 1828 the school for young ladies in Derby, N. H., was transferred to Ipswich and again the school became one exclusively for girls.[24] The Abbot Female Academy, opened and incorporated at Andover in 1829, claimed to be the first incorporated academy for girls only in Massachusetts.[25]

It will thus be seen that the academy movement was responsible in great degree for the introduction of secondary education for girls in Massachusetts. The movement met with great favor and a number of schools either for girls alone or for boys and girls sprang up. Some of these appear to have accomplished nothing more than to secure a charter. Others had but a short existence. Nevertheless the success of the movement was assured and its success was destined to have its effect on the subsequent policy of public secondary education.

3. The Elementary School and the District System

In order to get a conception of the general situation at the time of the beginning of the high school movement some attention must be paid to the state of the common schools at the beginning of the nineteenth century. If we pass over the earlier history of the lower public schools which is not especially relevant to this particular discussion the question reduces itself to some consideration of the district school system.

During the eighteenth century there developed through the "moving school" and the practice of "squadroning," a system of dividing towns into districts for purposes of school administration. This practice antedated legislation, but by the law of 1789[26] legal sanction was given and the district system was put on an acknowledged basis. In 1800[27] power was conferred on the districts to levy taxes, and in 1817[28] the districts were made corporations.

The development of the district system and the general evils which were evidently inherent therein have been too often dis-

[24] *Ibid.*, page 283.
[25] *Ibid.*, page 285.
[26] Acts and Resolves, 1789, Chapter XIX.
[27] Acts and Resolves, 1800, Feb. 28.
[28] Acts and Resolves, 1817, June 13.

cussed to require any extended consideration here. As it affected the secondary school in particular, however, certain phases of the question should be kept in mind. As has already been suggested the Latin grammar school began to decline in prominence during the eighteenth century. Throughout this period the district system began to spread and to assume a position of dominance in the field of public education. What the effect of the district system on the Latin grammar school was it would be a difficult matter to determine, but certain inferences would seem to be justified. The district system by its very nature called for a splitting up of administrative functions, a dissipation of financial support, and a division of public interest which were entirely antagonistic to the best interests of secondary education. The more or less independent action of the various districts of any town resulting in a great differentiation in the method of providing elementary education, in a varying degree of advancement in the training of pupils in the different districts, and in a lack of uniformity of elementary preparation, all precluded the efficient administration of a general town school for higher education, even in cases where it did not actually operate against the maintenance of a grammar school.

The efficient operation of a higher school depends to a considerable degree on the presence of some amount of gradation. In the majority of cases where the district system was in operation any attempt at even a rough gradation was practically impossible, because of the small number of pupils and financial considerations which limited the number of teachers available.

Whatever may have been the effect of the district system on the disappearance of the Latin grammar school, its dominance in the field of public education during the early part of the nineteenth century was beyond dispute and this dominance was a great force to be reckoned with in considering the educational situation at that time and for the greater part of the first half of the century.

4. The English Classical (High) School at Boston

The establishment of the English Classical School at Boston in 1821 inaugurated a new era in the history of public secondary education in this country. Its early history has been clearly set

forth several times[29] and may, therefore, be treated less fully here than its intrinsic importance would otherwise require.

A portion of the report of the sub-committee which had been appointed to consider the question of the establishment of this school will indicate the aim which the advocates of such a school had in mind: "The mode of education now adopted, and the branches of knowledge that are taught at our English grammar schools are not sufficiently extensive nor otherwise calculated to bring the powers of the mind into operation nor to qualify a youth to fill usefully and respectably many of the stations, both public and private, in which he may be placed. A parent who wishes to give a child an education that shall fit him for active life, and shall serve as a foundation for eminence in his profession, whether mercantile or mechanical, is under the necessity of giving him a different education from any which our public schools can now furnish. Hence, many children are separated from their parents and sent to private academies in this vicinity, to acquire that instruction which cannot be obtained at the public seminaries."[30]

Its aim is further stated in the Regulations of the School Committee for 1833 (pages 14-16): "It was instituted in 1821, with the design of furnishing the young men of the city who are not intended for a collegiate course of study, and who have enjoyed the usual advantages of the other public schools, with the means of completing a good English education to fit them for active life or qualify them for eminence in private or public station."

In accordance with the plan proposed by the committee above mentioned and adopted by the School Committee the school was opened in May, 1821. The course of study was set for three years, the pupils being divided into three classes with one year assigned to each class. The school was open only to boys of not less than twelve years who were "well acquainted with reading, writing, English grammar in all its branches, and arithmetic as far as simple proportion."

The studies were assigned to the various classes as follows:[31]

First Class: Composition; reading from the most approved authors; exercises in criticism, comprising critical analyses of the

[29] E. g., Brown, E. E., The Making of Our Middle Schools, Chapter XIV; Catalogue of the English High School, Boston, 1890; *et al.*

[30] Quoted by Dr. Brown, *op. cit.*, page 299.

[31] Report of the Sub-Committee before mentioned. Quoted by Dr. Brown, *loc. cit.*

language, grammar, and style of the best English authors, their errors and beauties; Declamation; Geography; Arithmetic continued.

Second Class: Composition, Reading, Exercises in Criticism, Declamation; Algebra; Ancient and Modern History and Chronology; Logic; Geometry; Plane Trigonometry, and its application to mensuration of heights and distances; Navigation; Surveying; Mensuration of Surfaces and Solids; Forensic Discussions.

Third Class: Composition; Exercises in Criticism; Declamation; Mathematics; Logic; History, particularly that of the United States; Natural Philosophy, including Astronomy; Moral and Political Philosophy.

By 1823-1824 some rather important changes had been made in the regulations and course of study.[32] The requirement for admission then demanded a knowledge of reading, writing, English literature, geography and arithmetic, as far as proportion, including a view of vulgar and decimal fractions. The course of study was as follows:

3d or Lowest Class. No. 1. Intellectual and Written Arithmetic by Colburn and Lacroix. 2. Ancient and Modern Geography by Worcester. 3. General History, by Tytler; History of the United States, by Goodrich. 4. Elements of Arts and Sciences, by Blair. 5. Reading, Grammar and Declamation. 6. Bookkeeping, by Single and Double Entry. 7, Sacred Geography.

2d Class. Nos. 1, 2. 3. 4, 5, 6, 7, continued. And No. 8. Algebra, by dictation,—and Colburn. 9. Rhetoric and Composition,—Blair's Lectures Abridged. 10. Geometry, by Legendre. 11. Natural Philosophy. 12. Natural Theology, by Paley.

1st Class. Nos. 5, 8, 9, 10, 11, 12, continued, and 13. Chronology. 14. Moral Philosophy, by Paley. 15. Forensics. 16. Criticisms on English Authors. 17. Practical Mathematics, comprehending Navigation, Surveying, Mensuration, Astronomical Calculations, etc., together with the construction and use of Mathematical Instruments. 20. A course of experimental lectures on the various branches of Natural Philosophy. 21. Evidences of Christianity, by Paley.

After this little change took place in the curriculum of the school before the end of the period under discussion in this chapter. The studies pursued in 1827 are indicated on page 21.

The great expansion of the curriculum of the public secondary school in Boston can clearly be seen in the above curricula. For

[32] Quoted *Jour. of Ed.*, Vol. I, page 334. Also reproduced in part in *Amer. Jour. of Ed.*, Vol. 19, 1869, page 485.

the first time in the history of public education in Massachusetts the following subjects were taught in a secondary school: logic, natural philosophy, astronomy, rhetoric, moral philosophy, political philosophy, bookkeeping, natural theology, evidences of Christianity. Of these the first five were to be found in the curriculum of the Leicester Academy for 1824, and in various other academies most of the other subjects found a place at one time or another.

A new conception of the aim and material of secondary education supported by the public had been inaugurated. The academies had previously increased the scope of secondary education by adding new subject matter to the curriculum and by aiming to provide an education which was not designed for those who were to enter college. These features a public secondary school now took over and, in addition to the classical education which aimed at preparing boys for college, a school was provided which deliberately aimed to offer a course of instruction designed for those boys who did not intend to enter college.

In addition to the influence of the academy on the curriculum of the public school there was another new element which now entered into the subject matter of the secondary school. Previous to this time, since the public secondary school aimed merely to provide for a subsequent college course, the curriculum of that school contained only those subjects of study which were demanded by the college entrance requirements and no attempt was made to introduce subjects, which, though important for a well rounded education, could better be left for study in the college. When attention began to be paid in the secondary school to the education of boys not destined for a college course, there rose need of some instruction in some of the studies which had previously been relegated to the college curriculum. Hence, in the case of the English Classical (High) School at Boston, we find many of the higher studies which have been mentioned above.

5. The High School for Girls at Boston

The establishment in 1826 of the High School for Girls completed the secondary school system of Boston. Until this time there had existed no public school of higher grade for girls in Boston, or, in fact, in Massachusetts, unless we except the

instance of Dorchester previously mentioned. The provision for the education of girls in the academies has already been discussed.

On May 10th, 1825, a committee was appointed "to consider the expediency and practicability of establishing a public school for girls for the instruction in the departments of science and literature." The arguments offered for the establishment of this institution were in substance: 1. To afford a stimulus for higher study; 2. To supply teachers for the primary schools; 3. To try out the monitorial method.

The committee reported and its report was unanimously accepted September 26th, 1825. The part of this report directly affecting this discussion was as follows:[33]

"Upon these points your committee would propose that the candidates for admission to this school shall be eleven, and not more than fifteen years of age;—that they shall be admitted on examination in those studies which are pursued in the public grammar schools of the city;—"

"That the course of studies in this, as in the English High School, shall be calculated to occupy three years;—

First Year

Required: No. 1. Reading .... 2. Spelling .... 3. Writing words and sentences from dictation .... 4. English grammar with exercises in the same .... 5. Composition .... 6. Modern and Ancient Geography .... 7. Intellectual and written arithmetic .... 8. Rhetoric .... 9. History of the United States.

Allowed: Logic, or Botany.

Second Year

Required: Nos. 1, 2, 5, 6, 7, 8, continued .... 10. Bookkeeping by single entry .... 11. Elements of Geometry .... 12. Natural Philosophy .... 13. General History .... 14. History of England .... 15. Paley's Natural Theology.

Allowed: Logic, Botany, Demonstrative Geometry, Algebra, Latin or French.

Third Year

Required: Nos. 1, 5, 12, 15, continued .... 16. Astronomy .... 17. Treatise on the use of globes .... 18. Chemistry .... 19. History of Greece .... 20. History of Rome .... 21. Paley's Evidences of Christianity.

Allowed: Logic, Algebra, Principles of Perspective, projection of maps, Botany, Latin or French."

[33] The High School for Girls, Boston—An Account, February, 1826, pp. 12-13.

It will be seen from this course of study that the higher education to be provided for girls in Boston was in no way inferior to the education provided for boys in the English High School or to the education provided for in the academies. For purposes of comparison see the table on page 21.

The success of this school for girls was great and immediate, so much so that a greater number of girls wished to enter the school than could possibly be accommodated. This gave rise to the necessity of increasing the facilities for the instruction of girls in the higher studies either by admitting all who might apply, or by extending the course of the other schools then in existence—the writing and grammar schools. The latter course was adopted and in February, 1828, a sub-committee appointed to consider the question recommended the following changes:[34]

"1. The introduction of the Monitorial system into all our public Grammar and Writing schools, as soon as it is practicable. 2. The elevating and enlarging the standard of public education, in our Grammar and Writing schools, so as to embrace the branches taught recently in our High School for Girls."

After much discussion these recommendations were adopted and the High School for Girls as an institution passed out of existence, not to be revived until the middle of the century.

6. The Curricula of Various Institutions at about 1827

The table which follows will give a basis for comparison of the curricula of the various types of secondary education institutions at the time of the passage of the law of 1827 which in a more specific and extensive way formed the basis of the high school movement in Massachusetts. The requirements laid down by the law of 1827 are given for purposes of comparison. Of the Boston schools only such subjects for study as appear set down in the regulations of the particular year indicated are considered. Spelling, reading, writing, grammar, arithmetic and geography are set down in the requirements of the law of 1827, because the law says that the high school subjects mentioned were to be taught "in addition to the branches of learning aforesaid," and because they were commonly found in the curriculum of the higher school either as high school studies proper or as studies for review.

[34] Report of the Committee. Quoted *Amer. Jour. of Ed.* XIII, p. 251.

TABLE III

CURRICULA OF VARIOUS INSTITUTIONS AT ABOUT 1827

LAW OF 1827	BOSTON LATIN SCHOOL, 1827[35]	BOSTON ENG.[39] H. S., 1827[36]	BOSTON GIRLS' H. S., 1826[37]	LEICESTER ACADEMY,[39] 1824[38]
Spelling	.....	.....	Spelling	?
Reading	Reading	Reading	Reading	Reading
Writing	.....	.....	Writing	?
Grammar	Grammar	Grammar	Grammar	Grammar
Geography	Geography	Geography	Geography	Geography
Arithmetic	Arithmetic	Arithmetic	Arithmetic	Arithmetic
Algebra	Algebra	Algebra	Algebra	Algebra
Geometry	Geometry	Geometry	Geometry	Geometry
U. S. Hist. Gen. Hist.	U. S. Constit. History	U. S. Hist. Gen. Hist.	U. S. Hist. Gen. Hist.	Compend of History
Latin	Latin	.....	Latin	Latin
Greek	Greek	.....	.....	Greek
Logic	.....	(Logic, 1821)	Logic	Logic
Rhetoric	.....	Rhetoric	Rhetoric	Rhetoric
Surveying	.....	Surveying	.....	Surveying
Bookkeeping	.....	Bookkeeping	Bookkeeping	.....
.....	.....	Nat. Phil.	Nat. Phil.	.....
.....	.....	Astr. Calc.	Astronomy	Astronomy
.....	Composition	Composition	Composition	?
.....	.....	Ev. of Christ.	Ev. of Christ.	.....
.....	.....	Nat Theol.	Nat. Theol.	.....
.....	Declamation	Declamation	.....	.....
.....	Forensics	Forensics	.....	.....
.....	.....	Lit. Crit.	.....	Lit. Crit.
.....	Trigonometry	(Trig., 1821)	.....	.....
.....	Chronology	Chronology	.....	.....
.....	.....	Navigation	.....	.....
.....	.....	Mensuration	.....	.....
.....	.....	Arts and Sci.	.....	.....
.....	.....	Moral Phil.	.....	Watts on the Mind
.....	.....	.....	Chemistry	Chemistry
.....	.....	.....	French	(French, 1828)
.....	.....	.....	Eng. Hist.	.....
.....	.....	.....	Gk. and Rom. Hist.	.....
.....	.....	.....	.....	Intel. Phil.

[35] Regulations of the School Committee of Boston, 1827, page 7.

[36] *Ibid.*, page 24.

[37] The High School for Girls, An Account, February, 1826, pages 12-13.

[38] Washburn, Emory, Brief Sketch of the History of Leicester Academy, pages 19-34.

[39] Compare the programs of the Leicester Academy and of the English High School with that of the Phillips Exeter Academy for 1818, quoted in Brown, E. E., The Making of Our Middle Schools, pages 237-238.

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7. Summary of the Situation Previous to the Law of 1827

(1) The period of the first two decades of the nineteenth century together with a period some time previous to this was one of educational stagnation or even retrogression in Massachusetts as far as public schools were concerned. Certain specific conditions and causes of this state of affairs have been outlined in the preceding portion of this chapter and are summarized below. The general state of affairs was plainly indicated in the contemporary literature dealing with the subject: "The decline of popular education among us, or rather the comparatively retrograde motion of the principal means of it, has been more perceptible, during the last twenty or thirty years, than it ever was at any former period." [40]

"The free schools, strange as it may seem, had received almost no legislative attention, protection, or bounty, for nearly forty years. Of course, instead of taking the lead in improvement, as they should have done, they remained as nearly stationary as any institution can remain, in such an age and such a state of society, as those in which we live." [41] For a further commentary on this see also Horace Mann's remarks quoted on page 29.

(2) The Latin grammar school, the only institution for secondary education previous to the inception of the academy, and the only type of institution supported by the public for secondary education throughout the period previous to the act of 1827, had in most cases lost its prestige and the greater part of its usefulness by that date.

(3) The academy beginning about the last quarter of the eighteenth century, had developed by 1827 into an important institution and had usurped a large part of the function of the Latin grammar school. "But the academies have had another influence upon the public town schools, which has much impaired their usefulness, and, if not soon checked, it will ultimately destroy them. This influence, operating for a series of years, has led, already, to the abandonment of a part of the free school system, and to a depreciation in the character and prospects of the remaining part." [42]

[40] Carter, James C., Essays upon Popular Education, Boston, 1826, page 23.
[41] *Ibid.*, advertisement, page 4.
[42] *Ibid.*, page 30.

Whether or not the academy actually aided directly in the downfall of the Latin grammar school (an argument which would seem to have been somewhat exaggerated), it certainly must have contributed much to prevent its resuscitation and supplanted it as an agency of secondary education.

(4) Three elements the academy contributed to the practice and theory of secondary education: the introduction of new subject matter into the curriculum of the secondary school; the conception that a type of secondary school was required which was not entirely designed to afford preparation for college; and the furtherance or introduction of higher education for girls.

(5) The district school system, beginning during the eighteenth century, had by 1827 gained a dominance in the field of public education which reacted unfavorably on the institutions for secondary education.

(6) In the case of the English Classical (High) School of Boston a new type of secondary school was inaugurated which carried over into the public system certain of the new conceptions of secondary education that had previously been confined to the academy.

(7) The establishment of the High School for Girls in Boston in 1826 introduced into the public secondary school of Massachusetts a new theory and a new practice in the higher education of girls.

CHAPTER II

LEGAL PROVISIONS REGARDING SECONDARY SCHOOLS IN MASSACHUSETTS

The rise and development of the secondary school in Massachusetts had a very intimate relation with state legislation. At a very early period the state assumed the right to require the establishment and maintenance of secondary schools and to control the character of them. The various subsequent acts of the legislature fostered these principles and by the beginning of the second quarter of the nineteenth century these various acts had set up a standard for secondary schools which was settled in its policy, definite in its requirements, and essentially complete in its scope. From that time on various minor changes were made in the statutory provisions and several attempts were made to limit the scope of the law, but the former did not alter the essential character of the legal provisions and the latter were but temporary measures which were soon repealed. To trace the development of the legal provisions in Massachusetts so far as they affect the secondary school is the aim of the chapter.

1. The Statutes Previous to 1827

Legislation pertaining to the establishment and maintenance of higher public schools in Massachusetts had its beginning in the well known law passed by the General Court in 1647.[1]

"It is therefore ordered, that every townshipp in this jurisdiction, after the Lord hath increased them to the number of fifty householders, shall then forthwith appoint one within their towne to teach all such children as shall resort to him to write and reade, whose wages shall be paid either by the parents or masters of such children, or by the inhabitants in generall, by the way of

[1] Records of the Governor and Company of the Massachusetts Bay in New England, Nov. 11, 1647, II, page 203.

supply, as the major part of those that order the prudentials of the towne shall appoint; provided, those that send their children be not oppressed by paying much more than they can have them taught for in other townes: and it is further ordered, that where any towne shall increase to the number of 100 families or householders, they shall set up a grammar schoole the master thereof being able to instruct youth so farr as they may be fited for the university, provided, that if any towne neglect the performance hereof above one yeare, that every such towne shall pay 5 pounds to the next schoole till they shall performe this order."

In this law, apart from the importance of the general principles established regarding the right of the state to require towns to maintain schools and the right of determining the general scope of the education to be provided, it is pertinent to the present discussion to note the following points:

(1) That the state made a division between a lower (reading and writing) school and a higher (grammar) school.

(2) That the state determined the function of the higher school of fitting boys for the university.

The essential characteristics of this law of 1647 remained the basis of educational legislation throughout the seventeenth and eighteenth centuries and are to be found in the act passed June 25th, 1789 which contained the following provisions:[2]

(1) That every town or district of fifty families or householders should be provided with a school-master or school-masters, of good morals, to teach children to read and write, and to instruct them in the English language, as well as in arithmetic, orthography, and decent behavior, for such term of time as should be equivalent to six months for one school in each year.

(2) That every town or district containing one hundred families, or householders, should be provided with such school-master or school-masters, for such term of time as should be equivalent to twelve months, for one school in each year.

(3) That every town or district containing one hundred and fifty families, or householders, should be provided with such school-master or school-masters, for such term of time as should be equivalent to six months in each year; and should, in addition thereto, be provided with a school-master or school-masters as before described, to instruct children in the English language, for

[2] Laws of the State of Massachusetts, 1789, Chapter XIX, Sections 1-6.

such term of time, as should be equivalent to twelve months for one school in each year.

(4) That, in addition to the lower schools, every town or district containing two hundred families, or householders, should be provided with a grammar school-master of good morals, well instructed in the Latin, Greek and English languages.

(5) "That no youth shall be sent to such grammar schools unless they shall have learned, in some other school or in some other way, to read the English language, by spelling the same, or the Selectmen of the town where such grammar school is, shall direct the grammar school-master to receive and instruct such youth."

(6) That no one should be employed as a grammar school-master unless he had received an education in some college or university and produced a certificate from some minister "that he is of competent skill in the Greek and Latin languages" and "that, to the best of his or their knowledge, he sustains a good moral character."

(7) That failure to comply with the provisions above cited rendered towns of fifty families liable to a penalty of ten pounds, towns of one hundred families liable to a penalty of twenty pounds, towns of one hundred and fifty families liable to a penalty of thirty pounds, and towns of two hundred families, for not supporting a grammar school, liable to a penalty of thirty pounds.

This law remained in force until 1827, unaffected by the laws of 1800, 1802, 1811, 1815, 1817, and 1822, so far as the provisions above mentioned were concerned, and, so far as legal provision was concerned, was the basis of the grammar schools in operation at the beginning of the period to be considered in this discussion.

By the law approved February 18th, 1824, the provisions of the law of 1789 were practically nullified in so far as they affected the maintenance of grammar schools, the act of that date providing:[3]

"That any town in this Commonwealth containing less than five thousand inhabitants and now required by law to be provided with a school-master or with school-masters, well instructed in the Latin and Greek languages, shall, after the passing of this act, if such town shall elect, at their annual meeting in March or

[3] Laws of the State of Massachusetts, January Session, 1824, Chapter CXI, Section 1.

April, duly warned for the purpose, be provided instead thereof, with a teacher or teachers, well qualified to instruct youth in Orthography, Reading, Writing, Arithmetic, English Grammar, Geography, and good behavior, whose qualifications shall be certified in like manner as is provided in the case of public schoolmasters in the Latin and Greek languages."

By the provisions of this law, according to the census returns of 1820, all but seven towns of the state were freed from the obligation of maintaining the old type grammar school. These seven towns were: Gloucester (population 6384), Marblehead (population 5630), Newburyport (population 6852), Salem (population 12,731), Charlestown (population 6591), Nantucket (population 7266), Boston (population 43,298). The law of 1789, out of a total of 296 towns enumerated in the census lists of 1820, had required the maintenance of a Latin grammar school in 215 towns reckoning five persons to the family or of 173 towns reckoning six persons to the family.[4] Thus at one blow the number of towns required by law to maintain Latin grammar schools was reduced from 215 (or 173) to seven, and permission was given to substitute a school of lower type which did not provide for instruction in the classical languages and did not provide for admission to college.

2. The Law of 1827

The legislation of 1789 and of 1824 soon gave way to a much more comprehensive and much better law which was approved by the governor March 10th, 1827.[5] This statute formed the basis of all subsequent legislation regarding education in Massachusetts and is of particular importance here as instituting a new departure in the field of secondary education, providing as it did for two types of higher schools.

"Be it enacted by the Senate and House of Representatives in General Court assembled and by the authority of the same. That each town or district within this Commonwealth, containing fifty families, or householders, shall be provided with a teacher or teachers, of good morals, to instruct children in orthography, read-

[4] On the basis of family and house-holder enumeration. Cf. Horace Mann in the First Report of the Secretary of the Board of Education, 1838, page 51; Twenty-fourth Annual Report of the Secretary, 1861, page 93; Twentieth Report, 1857, page 85. Cf. also Mass. System of Common Schools, page 11, footnote.

[5] Laws of the State of Massachusetts, January Session, 1827, Chapter CXLIII, sections 1, 19, 21.

ing, writing, English grammar, geography, arithmetic, and good behavior, for such term of time as shall be equivalent to six months for one school in each year; and every town or district containing one hundred families or householders, shall be provided with such teacher or teachers, for such term of time as shall be equivalent to eighteen months, for one school in each year. And every city, town, or district, containing five hundred families, or householders, shall be provided with such teacher or teachers for such term of time as shall be equivalent to twenty-four months, for one school in each year, and shall also be provided with a master of good morals, competent to instruct, in addition to the branches of learning aforesaid, the history of the United States, bookkeeping by single entry, geometry, surveying, and algebra; and shall employ such master to instruct a school, in such city, town, or district, for the benefit of all the inhabitants thereof, at least ten months in each year, exclusive of vacations, in such convenient place, or alternately at such places in such city, town, or district, as the said inhabitants, at their meeting in March, or April, annually, shall determine; and in every city, or town, containing four thousand inhabitants, such master shall be competent in addition to all the foregoing branches, to instruct the Latin and Greek languages, history, rhetoric, and logic."

As a penalty for the neglect to provide for the various schools required by law a fine was set as "a sum equal to twice the highest sum which such town has ever voted to raise for the support of schools therein."

In this law should be noted the following facts:

(1) A four-fold provision is made for the maintenance of schools, the differentiation being based on population.

(2) Provision is made for a new type of higher school which differed essentially from the old grammar school, especially by the omission of Latin and Greek, subjects which were then relegated to the higher grade of upper schools.

(3) Specific requirements are made regarding the studies to be taught in the various schools.

(4) Definite requirements are made regarding the maintenance of the higher schools "for the benefit of all the inhabitants . . . at least ten months in each year, exclusive of vacations." This factor became one of the chief characteristics of the high school in distinction from the common schools, reference being constantly made in the reports to the "Town School" and the "school for the benefit of all the inhabitants."

(5) A heavy penalty was attached to non-compliance with the law.

This law was by far the most comprehensive law that had as yet been passed in Massachusetts and if its provisions had been properly met the growth of the high school in that state would have been greatly accelerated. Strict accordance with these provisions would have required the establishment and maintenance of high schools of the lower grade (on the basis that five hundred families equalled 3000 inhabitants[6]) in thirty towns according to the census of 1820, in thirty-five towns according to the census of 1830, and in forty-four towns according to the census of 1837 and that of 1840. According to the same provisions high schools of the higher grade would have been required in thirteen cities and towns according to the census of 1820, in twenty-two cities and towns in 1830, and in twenty-five cities and towns according to the census of 1837 and that of 1840. As late as 1837, according to the estimate of Horace Mann,[7] there existed not more than thirteen towns which maintained high schools of either type. The immediate causes of this state of affairs will be discussed later[8] but it may be enough to note in passing the low state of educational interests during the early part of the nineteenth century. This is clearly indicated by Horace Mann in the Twelfth Annual Report of the Secretary of the Board of Education (1849, page 17): "Facts incontrovertibly show, that, for a series of years previous to 1837, the school system of Massachusetts had been running down. . . . The final dissolution, in 1833, of territorial parishes, loosened, and often wholly severed, those bonds by which the clergymen had before considered themselves attached to the schools, and obligated to superintend them as a part of their parochial duty. To crown the whole, and to aggravate the deterioration which it proved to exist, the private school system was rapidly drawing the funds, patronizing the talent, and withdrawing the sympathy, which belonged to the public schools. All these things were undeniably true." A still clearer statement is made by the Secretary of the Board of Education in the Twenty-fourth Annual Report of the Secretary in 1861:[9] "Previous to

[6] Cf. footnote, page 27.

[7] First Annual Report of the Secretary of the Board of Education, 1838, page 51.

[8] Cf. pages 37 ff.

[9] Secretary's Report for 1861, page 61.

the year 1837, there had been no special attention given to the schools of the state. There had been no department of the government devoted to the interests of education, and the results of this neglect were manifest in the low condition of the schools generally throughout the Commonwealth. The school returns first required by law in 1826[10] and especially the establishment of the school fund in 1834 had wrought a favorable change, but the reformation did not really commence until the establishment of the Board of Education."

3. Changes in the Statutes 1827-1857

In view of these facts it is not strange to find a somewhat reactionary measure passed in 1829.[11] An act of the legislature passed on March 3d of that year with reference to "Town Schools" made it optional for towns of five hundred families to maintain such schools as were required by the law of 1827 provided the money raised for the support of schools was not "less than the highest sum which has been raised by such town within the four years last past."

In the Revised Statutes of 1835[12] the act of 1829 was repealed and the general provisions of the law of 1827 were revived in full.

A further reaction came about in the law passed March 21, 1840[13] which provided "that any town now required by law to maintain such a school as is described by the fifth section of the twenty-third chapter of the Revised Statutes,[14] shall be released from their obligation by raising and expending annually for the support of town or district schools, twenty-five per cent. more than the greatest sum ever raised by assessment by said town, for this object, before the passage of this act, anything in said section to the contrary notwithstanding." Regarding this law Horace Mann had this to say:[15] "This 76th chapter of the statutes of 1840 is the only backward movement, the State had made, during the last twelve years. That step is now retraced. By the fifth section of the twenty-third chapter of the Revised Statutes, every town of it, containing a specified number of in-

[10] Laws of the Commonwealth, 1826, Chapter 143.
[11] Laws of the Commonwealth, 1829, Chapter CXXVIII.
[12] Revised Statutes, 1835, Title X, Chapter 23, Sections 1, 5, 6.
[13] Laws of the Commonwealth, 1840, Chapter 76.
[14] Revised Statutes, 1835, Chapter 23.
[15] Secretary's Report for 1849, XII, page 30.

habitants, was obliged to maintain a high school. The act of 1840 released the towns from this obligation on the performance of an easy condition. The act of the present year reimposed the obligation unconditionally, to keep a high school."

The law referred to in the last sentence of the above quotation was that passed in 1848 [16] repealing the law of 1840 and reviving the provisions of the law of 1827 and 1835. During the intervening period the possibility of avoiding the maintenance of high schools was taken advantage of by several towns: e.g., Pittsfield (1846),[17] Haverhill (? Report for 1851, p. 13), Grafton (? Report for 1849), Leominster (? Report for 1848-9, p. 10). Cf. also Chapter III.

The law approved May 3d, 1850 [18] was not so reactionary as that of 1840 but offered relief to towns of less than 8000 inhabitants where the machinery of the district system rendered the maintenance of a high school for the whole town difficult.

"Towns coming within the requirements of the fifth section of the twenty-third chapter of the Revised Statutes, but of less than eight thousand inhabitants by the next decennial census, may be exempt from said requirements: provided, that they maintain, in each year, two or more schools, in such districts as the school committee shall approve, for terms of time that shall, together, be equivalent to twelve months and for the benefit of all the inhabitants, kept by masters who, in addition to the branches of instruction enumerated in the first section of said chapter, shall be competent to give instruction in the history of the United States, bookkeeping, surveying, geometry, and algebra, and also, in towns containing four thousand inhabitants, in the Latin and Greek languages, general history, rhetoric, and logic: provided also, that no one of said schools shall be kept for a less term than three months."

The conditions which gave rise to this law will be discussed in connection with the relation of the high school to the district system in Chapter IV, pages 61-65. According to the census of 1850 eighty-five towns came under the provisions of this law and in numerous cases advantage was taken of it.

The agitation against the district system which had been growing for several years manifested itself in the law approved April

[16] General and Special Statutes, for 1848, Chapter 283.
[17] Smith, J. E. A., The Public School System of the Town of Pittsfield, 1761-1880, page 23.
[18] Acts and Resolves for 1850, Chapter 274.

14th, 1853,[19] which empowered the school committee to discontinue the district system at its discretion. While this law was permissive only and did not put an end to the district system in actual practice, nevertheless it did relieve the necessity for the provisions of the law of 1850. Accordingly by the act approved May 22d, 1857,[20] the law of 1850 was repealed and the essential requirements of the Revised Statutes regarding the maintenance of high schools were revived.

Notwithstanding the legislation of 1853 and of May 22d, 1857, the adherents of the district system were still strong, and by the law passed May 30th, 1857 [21] the law of 1853 was repealed leaving the legal provisions for the district system as they were before the passage of the last mentioned law.

By the law passed May 22d, 1857,[22] the provisions regarding the studies of the public schools were so changed as to include algebra and the history of the United States in the curriculum of the elementary schools, and physiology and hygiene as permissive studies in the same schools. By the same law natural philosophy, chemistry, botany, the civil polity of Massachusetts and of the United States, and Latin were added to the requirements of the high schools of lower grade. To the requirements for high schools of higher grade were added French, astronomy, geology, intellectual and moral science, and political economy. It will thus be seen that several subjects were reduced from higher to lower grade schools and a number of new subjects were introduced.

4. The Law as it Stood at the Close of the Period

All of the changes made by the law above cited were incorporated in the revision of 1859.[23] The law determining the establishment, maintenance and character of the schools in Massachusetts at the close of the period considered in this discussion was the law as it stood in the General Statutes of the State of Massachusetts. Sections one and two of Chapter Thirty-Eight deal with the maintenance and character of the elementary and high schools:

"Section 1. In every town there shall be kept, for at least six months in each year, at the expense of said town, by a teacher

[19] Acts and Resolves, 1853, Chapter 153.
[20] Acts and Resolves, 1857, Chapter 206.
[21] Acts and Resolves, 1857, Chapter 254.
[22] Acts and Resolves, 1857, Chapter 206, Sections 1-2.
[23] General Statutes, Revised in 1859, Chapter 38.

or teachers of competent ability and good morals, a sufficient number of schools for the instruction of all children who may legally attend public schools therein, in orthography, reading, writing, English grammar, geography, arithmetic, the history of the United States, and good behavior. Algebra, vocal music, drawing, physiology, and hygiene shall be taught by lectures or otherwise, in all the public schools in which the school committee deem it expedient.

Section 2. Every town may, and every town containing five hundred families, or householders, shall, besides the schools prescribed in the preceding section, maintain a school to be kept by a master of competent ability and good morals, who, in addition to the branches of learning before mentioned, shall give instruction in general history, bookkeeping, surveying, geometry, natural philosophy, chemistry, botany, the civil polity of this Commonwealth and of the United States, and the Latin language. Such last mentioned school shall be kept for the benefit of all the inhabitants of the town, ten months at least, exclusive of vacations, in each year, and at such convenient place, or alternately at such places, in the town, as the legal voters at their annual meeting determine. And in every town containing four thousand inhabitants, the teacher or teachers of the schools required by this section, shall, in addition to the branch of instruction before required, be competent to give instruction in the Greek and French languages, astronomy, geology, rhetoric, logic, intellectual and moral science and political economy.

Section 3. Two adjacent towns, having each less than five hundred families or householders, may form one high school district, for establishing such a school as is contemplated in the preceding section, when a majority of the legal voters of each town, in meeting called for that purpose, so determine.

Section 14. A town which refuses or neglects to raise money for the support of schools as required by this chapter, shall forfeit a sum equal to twice the highest sum ever before voted for the support of schools therein."

5. High Schools Permitted in Smaller Towns

It remains to treat of one phase of the legal provisions regarding the establishment of high schools, a phase indicated in the third word of the second section and in the third section of the law above quoted. The law of 1827 made no provision for the establishment of high schools in towns of less than five hundred families and there appears no indication that any town of that grade attempted the establishment of a high school previous to 1835 when Medford (its population in 1830 was 1755 and in 1837

was 2075) established a high school.[24] In that year, however, permission was given by the sixth section of the twenty-third chapter of the Revised Statutes, subsequent to which an ever-increasing number of the smaller towns availed themselves of this privilege, a topic which will be further discussed in Chapter III, page 48.

Permission to maintain "a Union School, to be kept for the benefit of the older children" was granted in the case of contiguous school districts by the law of April 25th, 1838.[25] More specific provisions were made in the law of May 9th, 1848:[26]

"Section 1. Any two adjacent towns, having not more than two thousand inhabitants each, may form one high school district, for establishing such a school as is contemplated in the fifth section of the twenty-third chapter of the Revised Statutes, whenever a majority of the citizens of each town, in meetings called for that purpose, shall so determine."

It will be noted that in the above résumé of the legislation affecting high schools no specific discussion has been given of the actual compliance with the laws. This will be found more properly in the discussion of "The Establishment of High Schools" in Chapter III. Likewise the detailed discussion of the subjects required to be taught has been omitted here. This will be found in the treatment of the "High School Curriculum" in Chapters V and VI.

[24] Abstract of Massachusetts School Returns for 1835.
[25] Laws of the Commonwealth of Mass., Jan. Session, 1838, Chap. CLXXXIX.
[26] General and Special Statutes of the State of Mass., 1848, Chapter 279.

CHAPTER III

THE ESTABLISHMENT OF HIGH SCHOOLS

1. Meaning of the Term High School

Before attempting to discuss the establishment of high schools in Massachusetts it is necessary to arrive at a clear understanding of the meaning of that term in this particular connection. It is not the intention here to trace the origin of the name nor to establish its meaning in other places. As far as Massachusetts is concerned the term "high school" had a meaning which was definitely determined both by popular usage and by statutory provisions.

The first school of the newer type established in Massachusetts was the English Classical School (then so called) of Boston which was opened in May 1821. The term "English High School" occurs first in the records of the Boston school committee of June 23d, 1824 and the school was so termed in common usage until 1832. In the records of March 13th of that year the original name was restored and so remained until February 12th, 1833 when the name "English High School" was formally adopted.[1]

When the High School for Girls was founded in 1826 the term "high school" was adopted and that name continued until the suspension of the school in 1828.[2]

The act of 1827 which provided for the type of school which was afterward recognized as "high school" did not give any specific name to the schools which it provided for in towns of five hundred families and of four thousand inhabitants. The phrase therein employed "for the benefit of all the inhabitants" became recognized as indicating what were later termed "high schools" as distinguished from the lower or "district" schools. Thus the

[1] See the reports of the school committee for the years 1824-1833, and Brown, E. E., The Making of Our Middle Schools, pp. 307 ff.

[2] See the reports of the school committee for the years 1826-28, and An Account of the High School for Girls, Boston, 1826.

terms a school "for all the inhabitants" or a "town school" came to have the meaning of the school of higher grade provided for in the law of 1827 and other subsequent laws based on it. Hence we find the following in the Annual Report of the General School Committee of Manchester (Mass.) for the year ending March 4th, 1849: "A High School is no ambiguous thing. It is a term that possesses an exact and well defined meaning. It is neither a primary or a grammar school, nor a compound of the two, without any regard to age or attainment, but a school distinct by itself, to which there is no access, except through the two first. Thus High School has been defined for years past and this definition of them is recognized in our Revised Statutes (1835) and whenever schools are spoken of, 'for the whole town,' as the saying is."

In the statutes the term "high school" first appeared in the preamble to Chapter 76 of the Laws of Massachusetts for 1840, and in the body of the statutes of 1848, Chapter 279, section 1. Long before this, however, the term was in common use and the term "grammar school," had been relegated to a lower department or to such of the old Latin grammar schools as still survived.[3]

The term "high school," therefore, was generally employed to denominate such schools as were provided for in the second clause of the first section of the one hundred forty-third chapter of the statutes of 1827 and in the fifth section of the twenty-third chapter of the Revised Statutes of 1835. Hence the high school in Massachusetts had a legal status and had to meet certain legal requirements:

(1) It must be a town school "for the benefit of all the inhabitants."

(2) It must provide instruction in such subjects as were required by law. These, of course, varied at different periods. Cf. pages 71-73.

(3) It must be maintained "at least ten months in each year, exclusive of vacations."

The term high school was applied without distinction to the higher schools required in towns of five hundred families and of

[3] On the other hand see the Report of the School Committee of Taunton for 1853-4, page 26.

four thousand inhabitants, and was constantly employed without discrimination in referring to these two types. It must not be supposed, however, that the name high school, as found in the reports, was used only for such schools as completely fulfilled the legal requirements above cited. Cases are numerous where we find the name "High School" applied to higher grades in various districts, and still more frequently in cases where the so-called "High School" did not offer all of the studies prescribed by law. The reports of the school committees are full of criticism of the misuse of the term "high school."

2. Non-Compliance with the Law

The statute law of Massachusetts from 1827 on laid down definite and concrete requirements for the establishment of high schools in towns containing five hundred families and over. These requirements have been outlined in their historical development in Chapter II and are summarized on pages 71 ff. In accordance with them at the various census periods the following number of towns was obliged by law to maintain high schools:

TABLE IV

Census	Towns of 500 Families	Towns of 4000 Inhabitants
1820 (U. S.)	30	13
1830 (U. S.)	35	22
1837 (Mass.)	44	25
1840 (U. S.)	44	25
1850 (U. S.)	76	46
1855 (Mass.)	120	61
1860 (U. S.)	128	61
1865 (Mass.)	130	60

Note: The census lists prior to 1855 do not specify the number of families per town. In the above table the number of towns of 500 families (1820-1850) is estimated on the basis of 500 families = 3000 inhabitants. On this see The First Annual Report of the Secretary of the Board of Education, 1838, page 51. No allowance is made in the above table for towns which were exempt by special law.

The law requiring the establishment of high schools in such towns was explicit and mandatory. Nevertheless its provisions were never completely fulfilled and during most of the early period were constantly evaded. The following figures, compiled

from the data given on page 37 and on pages 42 to 45, will indicate the degree of non-compliance with the law at various periods:

TABLE V

Census	Required by Law	Established According to Law	Percentage Meeting the Law	Established but not Required	Total Established
1830	35	3	8.6	0	3
1840	44	16	36.4	2	18
1850	76	42	55.3	5	47
1855	120	77	64.2	10	87
1860	128	86	67.2	16	102
1865	130	88	68.0	20	108

The unstable state of some of the high schools established renders the above data somewhat inaccurate but the figures are in general correct and clearly represent the decrease in the matter of non-compliance with the law and the growth of the high school movement.

For a commentary on the condition of affairs regarding compliance with the law, see the following portions of the reports of the secretary of the Board of Education of Masschusetts: 1838 (I, 51), 1839 (II, 33), 1845 (VIII, 105), 1855 (XVIII, 57), 1856 (XIX, 72), 1857 (XX, 85), 1861 (XXIV, 93), 1863 (XXVII, 51 ff.), 1865 (XXIX, 86 ff.).

For non-compliance with the law a rather heavy penalty was provided for in the statutes — "a sum equal to twice the highest sum which such town had ever voted to raise for the support of schools therein." From the data above given it is evident that the law was not obeyed in numerous cases and that at all periods many towns were liable to indictment for not maintaining high schools. Nevertheless a careful search of the Massachusetts Law Reports, of some town records, and of practically all the reports of the school committees of all Massachusetts towns for the period 1838-1861 disclosed little evidence of actual indictments. The only clear cases found were those of the town of Danvers as shown in the report of the school committee of that town for 1850, pages 6 ff. and of Sheffield in 1853.[4] Threats of indictment evidently caused the town of Dedham to vote for the establishment of a

[4] 11 Cushing, 178.

high school in 1850,[5] and apparently such was the case also in Haverhill in 1839.[6] Conclusive evidence as to the complete number of actual indictments could be determined only by an examination of the records of the lower courts of Massachusetts, but it may reasonably be assumed that if there were many such cases the reports of the school committees of the various towns would have given some evidence of such indictments. However this may be it is undoubtedly true that the provision regarding the penalty for non-establishment of high schools was not commonly enforced, though there are numerous cases in the reports of the school committees where attention is called to the requirements of the law and the penalty attached held up before the town as an argument for the establishment of high schools. See, for instance, the reports of the school committees of: Barre (1852, p. 9), Danvers (1850, pp. 6-8), Dedham (1851), East Bridgewater (1856-57, p. 15), Fall River (1848-49, p. 15), Groton (1856, p. 3), Grafton (1849, Ms., 1851-52, p. 12), Lynn (1848-49, p. 12), Leicester (1855-56, Ms.), Leominster (1848-49, p. 10), Medford (1850, p. 5), Millbury (1850-51, Ms.), Natick (1852, p. 11), Southbridge (1855), Springfield (1849, p. 13), Waltham (1847-48, p. 2), Woburn (1851-52, p. 18), Ware (1849-50, p. 5), Haverhill (1839-40, p. 8, 1851, p. 12), Pittsfield (1853, p. 12).

That failure to indict was not due to any doubt as to the requirements of the law and the power of the state to enforce it can be seen from the precedent established in regard to Latin grammar schools; e. g., in the cases of "Commonwealth versus the Inhabitants of Dedham" in 1817, (16 Mass. 141) and Cushing vs. Inhabitants of Newburyport in 1845 (10 Cushing, 508).[7]

3. Circumstances Operating against the Establishment of High Schools

Attention has been called above to the failure to establish and maintain high schools as required by law. It remains to consider some of the conditions which operated to prevent such establishment. Most potent among these may be mentioned:

[5] Slafter, Carlos, A Record of the Schools and Teachers of Dedham, page 185.
[6] Haverhill Report for 1839-40, page 8.
[7] Cf. the list of towns presented on page 4.

(1) The prevalence of the "district" system for common schools and its conflict with the principle of "town" and "graded" schools. This whole subject will be discussed in Chapter IV, pages 61-65.

(2) Connected with the problem of the "district" system was the problem of meeting the requirements of the laws in towns of over five hundred families but of wide territorial extent and widely scattered population.

(3) The ever-present financial problem.

(4) The various reactionary laws passed as relief measures in 1829, 1840 and 1850.

(5) Until 1837 the want of some centralized authority.

All of these interfering conditions find frequent manifestation in the reports of the school committees, but they are, from their nature, difficult to estimate accurately as to their influence. In the smaller and less progressive towns their effect can be traced by the unstable maintenance of the high schools, alternately starting and stopping as money was appropriated or withheld and as the law offered relief or created new requirements. The law itself is by no means constant as may be seen in Chapter II.

Within the period 1829-1835, in accordance with the law of 1829 towns of five hundred families could avoid the maintenance of high schools by raising for the general school fund an amount "not less than the highest sum which has been raised by such town within the four years (1826-1829) last past." According to the figures given in Table IV (page 37) some thirty-five towns could thus evade the maintenance of high schools. The full extent to which towns availed themselves of this it is impossible to ascertain, the data for that period being very meagre and fragmentary.

Within the period 1840-1848, according to the law of 1840 towns were able to avoid the maintenance of high schools "by raising and expending annually for the support of town or district schools, twenty-five per cent. more than the greatest sum ever raised by assessment by said town for this object." Here again the nature of the means of exemption is such that it is impossible to determine the exact extent to which it was made use of. Examples are to be found in: Pittsfield (1846), Grafton (1849), Haverhill (1851, p. 13), Leominster (?1848-49, p. 10).

In 1850 the school committee of Fairhaven petitioned the Legislature "to pass a law which should excuse those towns from supporting a high school, which raise for each child between the age of five and fifteen years, the sum of five dollars for schooling." The answer of the committee of the Legislature to that petition sheds some light on the effect of the legislation of 1840 and 1848: "The experiment has been tried of releasing towns from supporting such a school, by raising a certain sum more than they had ever before raised for common schools. But experience has shown it did not work well, and the law has been restored, and under its operation many towns which had been for a long while struggling to establish a high school, have just now weathered the point, have erected buildings, established such schools, and are beginning to experience their benefits."[8]

During the period 1850-1857, according to the law of 1850, towns coming within the requirements of the statutes regarding high schools, but of less than eight thousand inhabitants according to the census of 1850, were allowed to substitute for the town school before required, the maintenance of two or more high schools, kept none for less than three months and together for terms of time equivalent to twelve months. This law affected some eighty-five towns. Its exact effect it would be difficult to trace but examples can be found of its use; e. g.: Newton (1850-51, p. 23), Palmer (1851, Ms.), Amherst (1856, p. 3), Oxford (1856-7, p. 8).

4. List of the High Schools Established before 1861

The following list contains the essential data regarding the legal requirements for each town, and a record of the establishment of high schools. The legal requirements are based on the census enumerations only. This does not give us the exact data in each case but it is sufficiently accurate for the purposes of this discussion and in most cases is the only possible basis. The question of the existence of five hundred families in any town was a matter of discussion and doubt even among the inhabitants and with the secretary of the state board of education. Previous to 1855 the census lists of Massachusetts and of the United States did not contain data and the estimate was commonly on a basis of

[8] Report of the School Committee of Fairhaven, 1851-52, page 11.

five hundred families representing 3000 inhabitants. From 1855 on the number of families in each town is given in the state census lists. Legal sanction for this was not given until the law approved May 19, 1868.[9]

Included in the list are all towns in which any claim was made of the establishment of a "High School" even where the so-called "High School" did not meet the requirements of the statutes. This course is necessitated by the fact that in many, perhaps most cases, the so-called "High School" failed to fulfill all the requirements. Notwithstanding this last mentioned fact the omission of all towns which failed completely to fulfill the legal demands would give a totally wrong conception of the conditions of the high school in Massachusetts.

TABLE VI

THE ESTABLISHMENT OF HIGH SCHOOLS IN MASSACHUSETTS

Town	High School Required Lower Grade	Higher Grade	High School Established	Reference in Report for the Year. Comments
Abington	1837	1850	1849	1850, pp. 33-36.
Adams	1837	1837	1850	1851, p. 11.
Amesbury	1850	1865	1860	1860, p. 11.
Amherst	1850	....	1851 (1861)	1851, 1861.
Andover	1827	1830	....	Exempted 1857.
Ashburnham	1865	....	....	School Returns 1837.
Ashland	....	....	1855	Ceased in 1858.
Athol	....	....	1857	1856-7, pp. 4-5.
Attleborough	1827	1850	....	Delinquent.
Barnstable	1827	1837	....	Delinquent.
Baldwinville	....	....	....	Cf. Templeton.
Barre	1855	....	1852	1853, p. 16.
Bedford	.....	....	1852	1852-3.
Belchertown	1855	....	1859	1859-60, p. 3.
Beverly	1827	1827	1858	1859, p. 5.
Blackstone	1845 (?)	1850	High School in District 8 in 1850-1.	
Bolton	....	....	1849	1849-50, p. 5.
Boston	1827	1827	1821	Cf. pages 26 ff.
Bradford	....	....	Mentioned in 1849-50, p. 2 only.	
Braintree	1855	....	1858	1858-9, p. 10.
Bridgewater	1855	1865	....	Delinquent.
Brighton	1855	....	1841	1859-60, p. 15.
Brookline	1855	1860	1843	1844, p. 2.
Brookfield	1860	....	....	Delinquent.
Cambridge	1827	1827	1838 (1847)	Regulations 1838-9.
Canton	1855	....	....	Delinquent.
Charlestown	1827	1827	1848	1849, p. 9.
Chatham	1855	....	1858	1858-9, p. 11.
Chelsea	1850	1850	1846	1847, p. 5.

[9] Acts and Resolves, 1868, Chapter 226.

TABLE VI (*Continued*)

Town	High School Required Lower Grade	Higher Grade	High School Established	Reference in Report for the Year. Comments
Chicopee	1850	1850	1849	1849.
Clinton	1850	1865	1851	Not a real high school.
Cohasset	....	....	1841	1841-2.
Concord	....	....	1851	1851-2, p. 3.
Dalton	....	....	1862	1862-3, p. 4.
Danvers	1827	1830	1850	1850-1, p. 4.
Dartmouth	1827	1840	....	Delinquent.
Dedham	1830	1480	1851	1852, p. 3.
Deerfield	1855	....	1858	1859, pp. 7, 12.
Dennis	1850	....	....	Delinquent.
Dorchester	1827	1830	1852	1853, p. 12.
Douglas	1855	....	....	Delinquent.
Duxbury	1855	....	....	Delinquent.
East Bridgewater	1855	....	1860	1861-2, p. 3.
Easton	1855	....	....	Delinquent.
Edgartown	....	....	1854	1854-5, p. 1.
Fairhaven	1830	1850	1852	1851-2, p. 12.
Fall River	1830	1830	1849	1849-50, p. 14.
Falmouth	1860	....	....	Delinquent.
Fitchburg	1850	1850	1849	1849-50, p. 9.
Foxboro(ugh)	1855	....	....	Delinquent.
Framingham	1840	1850	1851	Catalogue 1851-60.
Franklin	1860	....	....	Delinquent.
Gardner	1855	....	....	Delinquent.
Georgetown	....	....	1856	1857, p. 6.
Gloucester	1827	1827	1838	1838-9, p. 2.
Grafton	1850	1855	1838	1839, p. 8.
Granby	....	....	Mentioned for 1854-5 only.	Delinquent.
Great Barrington	1855	....	....	Delinquent.
Greenfield	1855	....	1854	1854-5, p. 1.
Groton	1855	....	1859	1859-60, p. 11.
Harwich	1850	....	....	Delinquent.
Haverhill	1827	1837	1841 (1855)	1841-2, p. 9; 1856, 12.
Holbrook	Cf. Randolph of which Holbrook was a part until 1872.			
Holliston	1855	....	1856	1856-7, p. 13.
Holyoke	1850	1855	1852	1853, p. 4.
Hopkinton	1855	1860	1851	1850, 1853.
Ipswich	1840	....	Before 1839	1839-40.
Lawrence	1850	1850	1849	1848-9, p. 6.
Lee	1850	1855	1851	1851-2, p. 4.
Leicester	1855	....	1856	1856-7, pp. 15 ff.
Leominster	1850	....	1850	1850-1, p. 8.
Lexington	....	....	1854 (1860)	1855-6, p. 9.
Lincoln	....	....	1852	1853, p. 2.
Lowell	1830	1830	1831	1832.
Lynn	1827	1827	1849	1852, p. 6; 1859.
Malden	1850	1855	1857	1857-8, pp. 6, 13.
Mansfield	1860	....	....	Delinquent.
Manchester	....	....	1848	1859, p. 1.
Marblehead	1827	1827	1837 (1847)	1847-8, p. 8.
Marlboro(ugh)	1855	1855	1851	1851-2, p. 7.
Medford	1850	1855	1835	School Returns 1836.
Medway	1855	....	1851	1851-2, p. 9.
Melrose	1860	....	....	Delinquent.

TABLE VI (*Continued*)

Town	High School Required Lower Grade	Higher Grade	High School Established	Reference in Report for the Year. Comments
Mendon	1830	Population decreased.		No real high sch'l establ'd
Methuen	1855	....	....	Delinquent.
Middleboro(ugh)	1827	1827	1849	Ceased in 1851.
Milford	1850	1850	1850	1850-1, p. 5.
Millbury	1850	....	1851	1851-2, p. 7.
Milton	1855	....	....	Delinquent.
Monson	1860	....	No real high school established.	
Nantucket	1827	1827	Before 1838	1838-9.
Natick	1855	1855	1852	1852-3, pp. 9, 21.
Needham	1860	....	....	Delinquent.
New Bedford	1827	1830	1827 (1837)	1839, p. 2.
Newbury	1827	1850	....	Delinquent.
Newburyport	1827	1827	Before 1838	1838-9.
Newton	1837	1850	1853 (1859)	1859-60, p. 4.
North Adams	Cf. Adams.			
North Brookfield	1860	....	1852 (1857)	1852-3, 1857-8.
Northampton	1830	1850	1835	1837, p. 9.
Northbridge	1860	....	....	Delinquent.
Oxford	1855	....	1856	1856-7, p. 8.
Palmer	1850	1855	1851	Ceased in 1856. 1851-2, p. 3.
Pawtucket	1850	1855	1855	1855-6, p. 3.
Peabody	Cf. South Danvers whose name was changed to Peabody in 1868.			
Pittsfield	1830	1850	1850	1850-1, p. 6.
Plymouth	1827	1827	Before 1838	1838-9; 1850.
Provincetown	1850	....	1849 (1860)	1850.
Quincy	1830	1850	1852	1853, p. 10.
Randolph	1830	1850	1859	1860, p. 57.
Reading	1850	....	1856	1856-7, pp. 1 ff.
Rochester	1827	....	....	Delinquent.
Rockland	Cf. Abington of which Rockland was a part until 1878.			
Rockport	1850	....	1849 (1857)	1849-50, p. 10.
Roxbury	1827	1827	1852	1853, p. 22.
Salem	1827	1827	1827	Note 3.
Salisbury	1850	....	....	Delinquent.
Sandwich	1830	1850	....	Delinquent.
Scituate	1827	....	1836 (1861)	1855; 1862, p. 2.
Seekonk	1860	....	....	Delinquent.
Sheffield	1855	....	....	Delinquent.
Sherborn	....	....	1859	1859-60, p. 12.
Sommerville	1850	1855	1852	1852-3, p. 3.
South Danvers	1855	1855	1855	Cf. Danvers.
South Hadley	....	....	1854 (1857)	1854-5; 1857-8.
South Reading	1855	....	1845	1846, pp. 16, 18.
South Weymouth	Cf. Weymouth.			
Southborough	....	....	1854 (1858)	1854-5.
Southbridge	1855	1865	1854	1854-5.
Spencer	1855	....	1856	1856-7, p. 24.
Springfield	1827	1827	Before 1832	Sch'l Returns, 1832, 9.
Stoneham	1855	....	1846 (1854)	1846-7.
Stow(e)	....	....	1852	1851-2, 1852-3.
Sutton	1855	....	....	Delinquent.
Taunton	1827	1827	1849	1853-4, p. 25.
Templeton	1855	....	1856	1856-7, p. 12.

TABLE VI (*Continued*)

Town	High School Required Lower Grade	Higher Grade	High School Established	Reference in Report for the Year. Comments
Townsend	1855	....	....	Delinquent.
Upton	....	....	1859	1859-60, p. 9.
Uxbridge	1855	....	1855	1857-8, p. 13.
Wakefield	Cf. South Reading whose name was changed to Wakefield in 1868.			
Waltham	1850	1850	1835	1848-9, p. 8.
Ware	1850	....	1850	1850-1, p. 5.
Wareham	1850	....	....	Delinquent.
Warren	....	....	1855	1855-6, p. 12.
Watertown	1855	....	1853	1853-4, p. 5.
Wayland	....	....	1854	1855, p. 3.
Webster	1855	....	1855	1855-6, p. 4.
Wellfleet	1860	....	1859	1859-60.
West Boylston	1860	....	1859	1859-60, p. 8.
West Cambridge	1855	....	....	Delinquent.
West Roxbury	1855	1855	....	Cf. Note 4.
West Springfield	1827	....	....	Delinquent.
Westborough	1855	....	1853	1853-4, p. 7.
Westfield	1837	1850	1855	1855-6, p. 3.
Weston	....	....	1854	1854-5.
Westport	1855	....	....	Delinquent.
Weymouth	1837	1850	1853	1854, p. 8.
Williamstown	1855	....	....	Delinquent.
Winchendon	1855	....	1854	1854-5, p. 10.
Winchester	....	....	1850	1850-1, p. 9.
Woburn	1850	1855	1852	1852-3, p. 22.
Worcester	1830	1830	1824 (?)	1828-9.
Yarmouth	1855	....	....	Delinquent.

NOTES: 1. No regard is paid in this table to the Latin grammar schools antedating the high school period.

2. The dates given indicating the year when high schools were required in the various towns are those of the nearest census (national or state), except that the year 1827 is given for towns which fell under the provisions of the law of that date according to the census of 1820.

3. Cf. Address by H. K. Oliver in Dedication of the School House, Salem, 1856, p. 13.

4. Cooperation with the Eliot School to meet the requirements of the statutes. Cf. Report for 1856, pp. 3-6.

The following table compiled from the above data will give a general idea of the growth of the high school movement up to 1865. An error of estimation is undoubtedly to be found here both in the figures themselves and in comparison with the figures presented at various times by the secretary of the state board. This is due to the fact that in some cases the maintenance of the high school after its first establishment was not stable. All cases where a "high school" was claimed are included on this enumeration, a basis which was evidently assumed by the state board in its enumeration. Together with this enumeration are given

for purposes of comparison the data regarding the academy movement within the same period.

TABLE VII

Period	High Schools Established	Academies Incorporated [11]
1821–1830	3	32
1831–1835	6	32
1836–1840	9	14
1841–1845	5	11
1846–1850	24	10
1851–1855	40	14
1856–1860	25	5
1861–1865[10]	11	4

From these figures it will appear that the high school movement began to assume a position of stability within the period 1846-1860 while the academy movement, in so far as can be judged by the mere fact of incorporation, was constantly on the decline. For the period 1840-1848 the development of the high school had to combat the legal impediment created by the law of 1840 discussed on page 40.

The situation of the high school in 1863 is summed up by the Secretary of the Board of Education in the Twenty-third Annual Report for 1864, page 51: "By the census of 1860, it appears that there are in the Commonwealth sixty cities and towns having more than four thousand inhabitants, and therefore required to keep a High School of the first class. The latest official returns received at this office show that forty-nine of said towns maintain such a school, while eleven refuse or neglect to obey the law . . . Of the towns having over five hundred families, but less than four thousand inhabitants, and therefore required to maintain a High School of the second grade, there are sixty-eight. Thirty-three maintain such a school, and thirty-five fail to do so."

The following table, compiled from the data given in the Twenty-eighth Annual Report of the Secretary of the Board of Education[12] will indicate the condition of the high school in Massachusetts in 1865:

[10] Figures for 1861-1865 taken from the Twenty-fifth Annual Report of the Secretary of the Board of Education, page 86 ff.
[11] Cf. the table given on page 11.
[12] Summary on page 93. Cf. also data on pages preceding page 93.

TABLE VIII

Towns of	Required by Law	Maintained Acc. to Law	Not Maintained	Kept 10 Months	Kept 8 Months	Kept Less Than 8 Months
4000 inhabitants.....	60	52	8	54[13]	5[13]	3[13]
500 families; less than 4000 inhabitants....	68	36	32	24	7	6
400–500 families (39)..	...	10	...	7	0	3
Less than 400 families.	...	10	...	3	3	4
Totals.....	128	108	40	88	15	16

"Population of the towns keeping high schools (is) 865,881, or more than 70 per cent of the whole population of the state."

It will appear from the above data that of the 128 towns required by law to maintain high schools 88 had complied with the law by 1865 to the extent of establishing such schools, and of these 81 fulfilled the requirement of the law regarding the length of time (10 months) for which these schools should be kept in a year. Of the larger towns over 80 per cent had fulfilled the mandate of the law. Of the smaller towns only a few more than one-half met the legal provisions for establishment. Twenty towns not required by law to establish high schools, did maintain such institutions.

5. Distribution of High Schools in Massachusetts in 1865

TABLE IX

County	First Grade Required	First Grade Established	Second Grade Required	Second Grade Established	Total Required	Total Established	Per Cent.	Other Towns
Suffolk.....	2	2	0	0	2	2	100	0
Essex.....	11	11	5	3	16	14	87.5	2
Middlesex....	13	13	8	8	21	21	100	7
Norfolk.....	8	7	8	2	16	9	56.3	1
Bristol.....	4	3	5	1	9	4	44.4	0
Plymouth....	5	2	5	1	10	3	30.	0
Barnstable....	2	1	7	2	9	3	33.3	0
Nantucket ...	1	1	0	0	1	1	100	0
Dukes.....	0	0	0	0	0	0	.....	1
Worcester....	5	4	21	15	26	19	73.1	1
Franklin.....	0	0	2	2	2	2	100	1
Hampshire...	1	1	3	2	4	3	75	5
Hampden....	5	4	1	0	6	4	66.7	1
Berkshire.....	3	3	3	0	6	3	50	1
Totals.....	60	52	68	36	128	88	68¾	20

[13] These figures represent the number of schools. The number of towns was 47 — 3 — 2 as some towns maintained more than one school.

From these figures it will appear that, while the best record was to be found in Middlesex, the movement had spread throughout the state and in addition to the 68¾ per cent of towns which obeyed the law twenty others which were under no obligations to do so had established high schools by 1865.[14]

As was to be expected from the facts of population, early settlement, and educational advantages, the majority of high schools were to be found in the eastern part of the state, more than seventy per cent of the high schools being found within a radius of fifty miles from Boston. Within that region of the forty-seven high schools of first grade required by law forty-one had been established by 1865 and of the thirty-nine high schools of lower grade required by law twenty-two were maintained by 1865. Here also were to be found thirteen out of the twenty high schools maintained in towns which were under no legal obligations to establish such institutions.

The following table will give an indication of the degree in which the high schools administered to the needs of the people of the state at the close of the period here considered.

TABLE X

Distribution of High Schools According to Population in 1865

	Population	Percentage of Population
Total population of state, census of 1865	1,267,031	....
In towns required by law to maintain high schools	961,297	75.9
In towns required to maintain high schools and meeting the law	828,643	65.2
In towns required by law to maintain high schools but not meeting the law	132,654	10.5
In towns not required by law to maintain high schools but doing so	37,238	2.9
Total in towns maintaining high schools	865,881	68.3

6. The Standing of the High School in Massachusetts in 1860-61

In the Report of the Commissioner of Education for 1903 [15] Dr. E. E. Brown gives a partial list of high schools established in the United States before the Civil War, the same being a list

[14] Figures compiled from the Twenty-fifth Annual Report of the Secretary of the Board of Education, pages 96 ff.

[15] Pages 563-564.

made up from that presented in the Report of the Commissioner of Education (Dr. Harris) for 1900-1901,[16] supplemented at some points from miscellaneous sources. In that list Dr. Brown puts eleven high schools in Massachusetts: Boston, Worcester, New Bedford, Fitchburg, Lowell, Cambridge, Taunton, Springfield, Chelsea, Lawrence, Lynn.

In the Report of the Commissioner of Education for 1904[17] there is given a list of the towns in the United States maintaining high schools. In this list seventy-eight high schools in seventy-five towns are claimed for Massachusetts before 1861.

In the Twenty-fourth Annual Report of the Secretary of the Board of Education in Massachusetts (1861)[18] it is stated that the number of high schools in which Latin and Greek languages were taught was one hundred and two. In the report of the secretary for 1863[19] it is stated that there were eighty-two high schools in addition to those not required by law. In the report of the secretary for 1865[20] it was stated that in all one hundred and eight high schools were in operation in 1864.

In view of these incongruent statements it is obvious that the facts are not clear or that the authors of those statements made their estimates on entirely different bases. The question seems to hang on the interpretation of the term high school. The meaning of that term in Massachusetts has been discussed briefly on pages 35-37. There the discussion was chiefly regarding the meaning of "high school" in its legal sense. The strictest interpretation of the term in that sense would exclude a large number of the so-called high schools in Massachusetts. It is to be noted, however, that the law itself did not employ the term high school until a comparatively late period.[21] The name high school was a term applied by common usage to such schools as came under the provisions of the law and also, apparently, to such schools as aimed to meet the requirement of the statutes or only to furnish an education which contained in part only the subjects required by law. To estimate the work and standing of these so-called

[16] Pages 1912-1914.
[17] Pages 1782-1989.
[18] Page 56.
[19] Page 51.
[20] Page 93.
[21] Page 36.

"high schools" on the basis of the legal requirements only and to ignore other aspects would manifestly be unfair in comparing them with institutions in other states or with the high schools of the present day.

A fair criterion of the standing of a high school would seem to include all or most of the following qualifications: (1) An aim to teach subjects above and beyond those taught in the lower school; (2) the presence of certain subjects in the curriculum, among which we should expect to find for the earlier period algebra, geometry, Latin, Greek or French, English, natural philosophy, chemistry, or other natural sciences, and some other elements which would vary in the different schools; (3) the presence of a graded course of study; (4) some regulation regarding the length of school year, etc.

If we apply these criteria to the high schools of Massachusetts maintained within the period under consideration in this discussion, we shall find that the statements of the secretary of the board above cited must be somewhat modified. We shall find also that the statement of Dr. Harris, "the number of high schools in the United States in 1860 was about forty,"[22] cannot be accepted on any reasonable interpretation of the term high school. From the data given on preceding pages and summarized in Table V it will be seen that in 1860 one hundred towns claimed to maintain high schools. This number was without doubt too great and many schools which could not properly claim to be high schools were included in the list. The exact number of properly so-called high schools maintained in the towns of the state cannot be stated. This is due to the facts that no absolute criterion of a high school can be laid down (unless we confine our attention to the legal requirements) and that, in many cases, the data regarding studies, courses, etc., are lacking.

In Table XXXIV[23] is given a list of fifty-nine towns having sixty-eight high schools in which graded courses of study covering from three to five years were in operation before 1861. An examination of the reports of the school committees of these towns shows in practically each case a very creditable course of high school study. Doubtless the number of towns in whose high

[22] Cf. page iii.
[23] Pages 97-98.

schools a graded and prescribed course of study was to be found would be increased if all the necessary data were available, but in many cases, even where it is clear that a good high school was in operation, the reports do not give any clear statement of the nature of the course.

In Tables XX-XXV [24] are given data regarding the number of schools in a selected group of sixty-three towns which offered the various subjects in the curricula of their high schools. The group of towns considered was chosen for discussion because of the fullness of the reports in the matter of the subjects taught in the high schools. An examination of those tables will show that most of those towns offered in their high schools a group of subjects for study which would justify the use of the term high school for their institutions even on the basis of present-day criteria. If other towns presented in the reports of their school committees more data regarding the work done in their high schools there can be no doubt but that the number of towns which could justly claim the name high school for their institutions would be in excess of the sixty-three considered in the tables.

The statutes of Massachusetts required that the high schools be kept for ten months in each year, exclusive of vacations.[25] According to the report of the secretary of the Massachusetts Board of Education for 1865 [26] eighty-eight high schools in the state were kept for ten months or longer and fifteen more were kept between eight and ten months in the year.

From the above data it would seem that, if we are to judge a high school by the criteria of its subject matter, the course of study, and the term of time demanded for study, the number of high schools which were entitled to be so called could not have been less than sixty-three by 1861 and probably was considerably in excess of that number. Of the other schools which claimed to be high schools the number which were entitled to that name at that time must be estimated in accordance with the meaning which one should attach to that term. The same would be the case with very many "high schools" of the present day.

[24] Cf. pages 82-86.
[25] Cf. page 28.
[26] Page 93.

CHAPTER IV

THE HIGH SCHOOL IN ITS RELATION TO OTHER EDUCATIONAL INSTITUTIONS

1. The High School and the Latin Grammar School

In Chapter I the condition of the public secondary school—the Latin grammar school—previous to the origin of the high school was discussed. By the law of 1789 all towns containing two hundred families or over were required to maintain grammar schools. This law was in force from 1789 until 1827 and in accordance with it by the census of 1820 some 173 towns out of a total of 296 in the state were required to maintain Latin grammar schools. As was indicated in Chapter I the great majority of such towns failed to meet the requirements of the law and by 1820 the Latin grammar school had fallen into a low state. By the law of 1824 all but seven towns in the state were practically relieved of the necessity of maintaining grammar schools.[1] A few such schools continued to exist but by the time of the passage of the law which legally created the high school in Massachusetts the number of Latin grammar schools in the state was small.

By the law of 1827 the legal provision for secondary education was radically changed and the work previously prescribed for the Latin grammar school was provided for in high schools of the higher grade prescribed in towns of four thousand inhabitants and over. By this law the number of towns required to maintain schools which replaced the Latin grammar school, was, according to the census of 1820, thirteen, and according to the census of 1830 twenty-two.[2]

It must not be thought, however, that the school of higher grade above mentioned merely continued the type of school previously represented by the Latin grammar school. Rather it instituted a type of school which included within its scope the fundamental characteristics of the older school and in addition greatly

[1] Cf. pages 26-27.
[2] Cf. page 37.

extended its curriculum and application. By the law of 1789 the only subjects legally required of the Latin grammar school were the Latin, Greek, and English languages. By the law of 1827 were added to the curriculum of the public secondary school the history of the United States, general history, bookkeeping, algebra, geometry, surveying, rhetoric, and logic.[3]

While the legal requirements regarding the subject matter which had been covered in the Latin grammar school by the law of 1827 were relegated to the high schools required in towns of four thousand inhabitants only, there was an almost universal tendency to include Latin and certain elements of English in all high schools of both grades. Greek did not meet with so general acceptance although numerous cases were found where it was included in the curriculum of high schools of lower grade.

The law of 1647 on which all subsequent laws regarding Latin grammar schools were based had stated that a school master should be provided "able to instruct *youth* so farr as they may be fited for the university." By the law of 1789 it was provided (Section 6) "That no *youth* shall be sent to such grammar schools unless," etc. Whether or not this phraseology made the law applicable to students of both sexes never seems to have aroused much discussion with reference to the Latin grammar school, though some indication may be noted in the finding of the supreme court in the case of The Commonwealth vs. the Inhabitants of Dedham[4] in 1817: "A Grammar school, required to be maintained by every town having two hundred families or householders, must be kept *for the use and benefit of all the inhabitants* of the Town." By the law of 1827 it was provided that the higher schools prescribed should be kept in towns "*for the benefit of all the inhabitants thereof.*" Whatever may have been the intention of the framers of that law the subsequent policy of admitting girls to the high schools or providing separate high schools and separate courses for them clearly indicates that such was the interpretation given to the law. Thus we find one great difference between the Latin grammar school for boys only and the high school which from the beginning provided instruction for both boys and girls.

[3] Cf. page 28.

[4] 16 Mass., 141. Cf. also the discussion in Nelson vs. Cushing, et al., 2 Cushing, 519, pages 532-535.

According to the legal requirements the Latin grammar school was superceded by the new type of school in 1827. The low state of the Latin grammar school in particular, the general condition of educational interest at that time, the rise of the academy, and the control of the district system—all these causes operated to delay the high school's development during the first decade after the passage of the law of 1827. The change is not so much from the Latin grammar school to the high school as a rebuilding of the entire public system of secondary education. A stage somewhat intermediate between the older type of school and the new was, perhaps, represented by the practice in some towns of maintaining two types of higher schools, the one devoted to the classical studies and preparing for entrance to college, the other devoted to the more distinctly English studies and to training for non-collegiate activities. In some cases this separation of the two types continued for a long period, in the instance of the Public Latin School even up to the present day. This same separation of the classical and other studies in the high school also manifested itself in the division of these subjects into distinct courses even where they were all parts of one institution. This differentiation has, of course, continued in some degree up to the present time, not only in Massachusetts but generally throughout the country.

The great contribution of the Latin grammar school to the high school was, of course, a body of material in the form of subject matter, which was necessary for admission to college for a long period, which was supposed at that time to be a prerequisite for any of the learned professions, which had developed about itself a body of method, and in the teaching of which there was a large body of men well trained. It may well be doubted that the high school would so soon or so easily have been organized into a well graded course, if there had not been present at its inception a basis of subject matter which by its traditional prestige, its essential characteristics, and its long usage demanded an orderly sequence in its study. In the case of mathematics at that time there was no such basis, since the subject itself had been introduced into the higher schools of Massachusetts but a short time before and had not yet developed into a well defined system of instruction which offered any necessary sequential treatment.

It was but natural that teachers who had been, and must necessarily have been trained in an almost purely classical system, should carry over into such new subjects as they were called upon to teach a great deal of the method and teaching practice which they had acquired and practiced in the classical studies. The extent of this is, of course, impossible to measure, but we may gain some idea of it from the presentation of the material in the various text-books used.[5] A further indication of it may, perhaps, also be found in the method of teaching the modern languages which obtained almost universally in this country up to within the past few years and probably still obtains in the majority of our high schools.

Whatever may be the objections to the study of Latin and the study of Greek *per se*, certainly they played a great and important part in the organization of the Massachusetts high school curriculum at a time when the introduction of a number of new subjects, practically all without any well developed body of method or practice, might, perhaps, have led to a disintegration, or prevented an integration, of the high school and greatly delayed the high school movement. At the time when the high school movement was inaugurated the classical studies formed an integrating force and were, so to speak, the backbone of the high school curriculum.

That the classics met a real demand on the part of the public can easily be seen from the number of students taking up the subjects of Latin and Greek, indicated on pages 86-93. These figures, incomplete as they are, show a desire for these subjects which was out of all proportion to the number of students who could have taken them for the purpose of preparing for entrance to college.[6] Whether or not this was justified by the value of the subjects of Latin and Greek *per se* is not the question here. That there was such a demand is obvious and this demand was met by the Latin grammar school and continued by the high school.

[5] See Chapter VI.
[6] Cf. pages 67-68.

2. The High School in its Relation to the Academy and Private Schools

The academy movement previous to the beginning of the high school has been discussed in Chapter I, pages 8 to 14. There an attempt has been made to trace the development of the academy from its beginning shortly after the Revolutionary War through the first quarter of the nineteenth century. The figures given in Table II show that previous to 1825 some forty academies had been established and incorporated in Massachusetts, an average of less than one a year. During the following decade sixty academies were incorporated but within the period 1836-1875 only sixty-nine were incorporated. Thus it appears that the period of greatest activity in the incorporation of academies was the ten years from 1826-1835, a period which covers approximately the first ten years of the high school movement after the passage of the law of 1827. It will be remembered in this connection that this was a period when the Latin grammar school was practically an institution of the past, when the high school had not yet assumed the position which it was destined later to assume, when the public school system was dominated by the district school, and the state of public education in general was at its lowest ebb. In Table VII, page 46, figures are given comparing the growth of the high school movement and the relative decline of the academy movement in so far as the latter may be measured by the number of academies incorporated. From these two tables it would appear that the high school began to assert its dominance over the academy by 1850.

In Table XI are given figures, compiled from the data in the Abstracts of Massachusetts School Returns, which indicate roughly the relative growth of the incorporated academies, unincorporated academies, and other private schools in Massachusetts for the period 1834 to 1860. Unfortunately the returns are given in such form that it is impossible to distinguish between the students taking secondary school work proper and those in elementary work, especially in the case of the unincorporated academies and private schools, but the figures are valuable as maximum and as indicating the decrease in the later types of schools.

In the case of incorporated academies it should be noted that, while the actual number of such schools and of the students attending them remains approximately the same, a com-

parison with the figures showing the increase of population would indicate that the influence of the academy was already on the wane in Massachusetts by 1850. It should be remembered also that during the entire period and especially during the later period some of the academies became institutions which drew an increasing proportion of their students from without the borders of the state. Thus in the case of the Phillips Academy at Andover the percentage of students coming to that institution from without the state in 1831 was 32.6 per cent, in 1833 38.6 per cent, and in 1836-37 39.7 per cent.[7]

TABLE XI

ACADEMIES AND PRIVATE SCHOOLS IN MASSACHUSETTS

Year	Incorporated Academies	Unincorporated Academies and Private Schools	Total Academies and Private Schools	Pupils—Average No. in Incorporated Academies	Pupils in Unincorporated Academies and Private Schools	Total Average for All	Towns Reporting	Population of Mass.
1834	..	....	....	....	.....	24749	261	671,031
1835	..	....	....	....	.....	24278	....	683,861
1836	..	....	....	....	.....	28752	....	696,940
1837	..	....	854	....	....	27266	294	710,261
1838–9	73	1100	1173	3599	24548	28147	298	723,841
1839-40	78	1308	1386	3701	28635	32336	301	737,699
1840-1	80	1388	1468	3825	31794	55619	304	760,070
1841-2	71	1268	1339	3379	26611	29990	296	783,111
1843-4	72	1238	1310	3760	25850	29610	304	831,321
1844-5	66	1167	1233	3939	26762	30701	299	856,531
1845-6	67	1091	1158	3726	24318	28044	308	882,510
1846-7	67	1050	1117	4220	26785	31005	308	909,261
1847-8	67	1096	1163	3862	27216	31078	313	936,794
1848-9	64	1047	1111	3864	27583	31447	315	965,240
1849-50	67	845	912	3717	19534	23251	315	994,514
1850-1	69	785	854	4154	16658	20812	320	1,002,003
1851-2	71	749	820	4220	16131	20351	322	1,027,508
1852-3	64	763	827	4062	18362	22424	324	1,075,007
1853-4	66	674	740	4142	17322	21464	326	1,103,351
1854-5	71	646	717	4716	17571	22287	327	1,132,364
1855-6	70	701	771	4708	18909	23617	330	1,151,455
1856-7	69	674	743	4346	18935	23281	330	1,170,862
1857-8	70	672	742	4338	18044	22372	331	1,190,592
1858-9	63	691	754	3932	18903	22835	332	1,021,656
1859-60	65	640	705	3561	15933	19494	333	1,231,066

NOTE: The above figures are compiled from the Abstract of Massachusetts School Returns for the years 1834-1860. The figures of population are taken from the computation on page 206 of the Abstract of the Census of Massachusetts for 1865.

[7] See the Catalogs for those years.

From these figures the following facts appear:

(1) The number of incorporated academies remained practically unchanged.

(2) The number of pupils in attendance at these academies remained practically unchanged.

(3) The number of unincorporated academies, private schools, and schools kept to prolong common schools, decreased by more than one third.

(4) The number of pupils in attendance at these schools decreased by more than one third.

(5) The population of the state increased by more than one half.

(6) The number of towns reporting to the secretary of the State Board of Education increased from 261 towns out of a total of 305 in 1834 to 333 out of a total of 334 in 1860. It follows that the figures for 1860 give a practically complete representation of the state of affairs at that date, while the figures for the years previous to 1838-39 represent only a minimum for extra-public schools.

It has commonly been supposed that the academy dominated our secondary education until well on into the second half of the nineteenth century.[8] However true this may be in general outside of Massachusetts, and however true it may be of Massachusetts as regards the character of the work done in the secondary schools, it would seem, at least as regards the number of institutions and the pupils in attendance therein, that the greatest ascendency of the academy in Massachusetts was prior to 1850. After that period there is a very sharp decline in the number of extra-public schools and in the number of pupils in attendance therein. This will be seen more clearly from the following figures which compare the status of these schools with the population of Massachusetts by decades.

[8] Brown, E. E., The Making of Our Middle Schools, pages 228, 314; Brown, J. F., The American High School, page 2.

TABLE XII

	1839-40	1849-50	1859-60
Number of inhabitants to each incorporated academy	9458	14,784	18,940
Number of inhabitants to each unincorporated academy, etc.	564	1177	1923
Number of inhabitants to each extra-public school	532	1090	1746
Number of inhabitants to each pupil in incorporated academies	199	268	346
Number of inhabitants to each pupil in unincorporated academies, etc.	26	51	77
Number of inhabitants to each pupil in extra-public schools	23	43	63

A comparison of the figures presented in the two tables above with the data for the growth of the high school [9] during this period will give some indication of the relative growth of the public schools and the extra-public schools. It is particularly to be noted that the period of the greatest strength of the extra-public school movement was the period of the greatest weakness in the public school system.

Concrete instances of the effect of the betterment of the public school movement on the academy and private school are to be met with in many reports. "In 1848-49, the number of pupils in academies and private schools reported was 36,477,[10] while in 1853-54 it was 21,464—a diminution of 14,983. It must not, however, be supposed that the number of pupils in academies and private schools is so much deducted from the attendance of the public schools; for no inconsiderable proportion of the former come from other states, there being in some instances, more than a hundred such in single schools."[11] More specific reference is found of the effect of the establishment of a high school in the private schools in the Annual Report of the School Committee of Salem, quoted by Barney:[12] "In the year 1836-37, previous to the establishment of the High Schools, there were ascertained to be in the city *seventy* private schools, containing 1590 scholars, educated at an annual expense for tuition of $22,700—averaging $14.27 per scholar, while in the year 1844, and after the establishment of the High Schools, it was ascertained that there were

[9] Cf. page 46.

[10] Note the discrepancy in the figures given in Table XI, page 57.

[11] Eighteenth Annual Report of the Secretary of the Board of Education of Massachusetts for 1855, page 62.

[12] Report on the American System of Graded Free Schools, page 33.

but 35 private schools, containing 775 scholars, supported at an expense for tuition of $10,098—averaging $13 per scholar." Barney further quotes from a member of the School Committee of Nantaucket:[13] "Before the establishment of our High School, we had several private schools. . . . When the school was first established, many kept their children away; . . . and private institutions almost wholly ceased."

While the academies never were merged into the public high school system, as was commonly the case with the public Latin grammar school, instances are not wanting of such a transformation when a town took over the academy and transformed it into a public high school or at least made such arrangement with the trustees of the academy as to meet the requirements of the law regarding high schools.

Summarizing the relation of the academy and private schools with the high school, we may say:

(1) The academy contributed to the public secondary school, or at least furthered, a new conception of the aim and material of education for secondary students which involved three factors:— the idea that provision should be made for those youths not preparing for entrance to college; new subjects of study; provision for higher education for girls.

(2) The dominance of the academy and of private schools in general covered the period when the old Latin grammar school was breaking down and when education in Massachusetts was at its lowest ebb. By 1850 the high school movement in Massachusetts was well on its road to later success and from that time on the dominance of the private school was decidedly lessened in favor of the public school.

(3) The academy did not merge itself into the general school system but, even after the high school was well established, continued to fill its place in the educational needs of the state, becoming in addition an institution which in ever increasing numbers drew its pupils from a wider range of territory.

(4) The public secondary school originally was directed specifically toward preparation for college. In the nineteenth century it tended to drift away from this ideal though this end was never lost sight of. The academy originally aimed at a general education

[13] Page 27 of the above cited book.

apart from though including preparation for college. Its tendency has been toward the end of fitting for college until to-day it is par excellence the "preparatory school."

3. The High School in its Relation to the Lower Schools and the District System

The relation of the high schools of Massachusetts to the elementary schools requires consideration in two apparently distinct but really closely related aspects—the one legal and administrative, the other more directly a matter of curriculum and studies. On the legal and administrative side the discussion concerns the district system in its effect on the educational system of Massachusetts in general and the effect of that system on the high school in particular. On the side of the curriculum it still involves the question of the district system but more specifically that system with regard to the effect of the ungraded and graded systems on the differentiation of function and the development of fixed courses for the elementary and high schools.

(*1*) *Legal and Administrative Aspect:* By the law of 1647 all public schools, elementary and secondary, were established on a town basis. During the eighteenth century there developed through the "moving school" and the practice of "squadroning" a division of towns for elementary school purposes into districts. The movement grew and in 1789 received legal sanction. In 1800[14] the power to levy taxes was given to the people of the districts and in 1817[15] the districts were made corporations. By the beginning of the period with which this discussion is particularly concerned the district system had affected the entire public school system. The condition of the town school, the Latin grammar school, at this time has been indicated in Chapter I. How much of the loss which the grammar school had suffered was due to the district system it would be difficult to say, but we can be sure that the failure of the Latin grammar school served to allow the prestige and activity of the direct town government of its schools to lose in prominence.

By the act of 1826[16] the town school committee was established as a part of the administrative side of public school work. By

[14] Laws of the State of Massachusetts, 1800, Feb. 28.
[15] Laws of the State of Massachusetts, 1817, June 13.
[16] Laws of Massachusetts, 1826, Chapter 170.

the act of 1827[17] it was provided that each town should "in addition to the aforesaid (town) committee, choose a committee for each school district in said town, consisting of one person." Thus was introduced a second school committee in each district called the "prudential committee."

The situation at the beginning of the high school period shows two distinct administrative bodies: (1) the town school committee in charge of the "town schools" and performing some other functions affecting the schools in general, especially with regard to the finances and the approval of teachers; (2) the prudential committees, one for each district, in charge of the elementary schools.

That this division of authority and office of administration should seriously interfere with any unification of the educational system in the various towns was, of course, inevitable. The evils of the division of power and authority were fostered by the growing importance of the districts as political units and the actual antagonism which developed between the various districts of the towns. This opposition of interests between the towns and the various districts of which they were composed is clearly reflected throughout the school reports of most towns where the district system was in operation.

The disadvantages of the district system have been too often depicted to be discussed here but the following points require attention as they directly affect the high school and its development:

(a) The dual system of control and the division of authority caused direct opposition of interest between the high school and the elementary schools which contributed, or should have contributed to it.

(b) The lack of any uniformity in the elementary schools, whose affairs were directed by separate bodies, greatly handicapped the work of the high school.

(c) The lack of grading, precluded in many cases by the small number of pupils in the district schools, prevented the proper preparation for the work of the high school.

(d) Great financial waste was involved in the multiplicity of schools. A more economical consolidation of schools and teachers would have contributed much to the schools as a whole.

(e) Friction between the various districts and the powers rep-

[17] Laws of Massachusetts, 1827, Chapter 143, Section 6.

resenting the high school interests interfered seriously with the work and development of both.

(f) The ambitious attempts of some of the districts to provide higher education within their own territories and for their own constituents, to include within the curriculum of the district schools some or all of the subjects for study provided by law for the high schools supported by the whole town, impeded greatly the development of a general town high school. On this see the reports of the following towns: South Hadley (1857-58), Mendon (1833-34), Medway (1854-55), Holyoke (1854), Blackstone (1850-51).

(*2*) *Curricular Aspect:* In Chapter II [18] and Table XVII [19] are indicated the studies which were prescribed by law for the elementary and high schools. For the period previous to 1861 the studies of the elementary school prescribed by law may be summed up as follows:

1827-1857 Orthography, reading, writing, English grammar, geography, arithmetic.
1850 Physiology and hygiene made permissive.
1857 Algebra and the history of the United States were added to the requirements of 1827.
1858 Physiology and hygiene were made obligatory. Algebra was made permissive.
1859 Algebra, vocal music, drawing, physiology, and hygiene were made permissive.

The work of the elementary school, thus clearly outlined in the statutes and the subjects therein prescribed, naturally formed the back-bone of the work of the lower schools. Not content with this work, however, the elementary school curriculum soon transcended this work and encroached on the studies which were prescribed by law for the high school. This is clearly shown by the data given in the Abstracts of Massachusetts School Returns for the period 1834-1841. Figures compiled from the returns are given in Table XVIII.[20] The part directly affecting the present issue is reproduced below. During the period for which these figures are given there existed in the state not more than seventeen

[18] Cf. pages 24-34.
[19] Cf. pages 71-73.
[20] Cf. page 75.

or eighteen high schools so that any number in excess of these represented the number of elemetanry schools in which the various high schools subjects were taught. The figures are rather inaccurate and must not be taken in too exact an interpretation.

TABLE XIII

TOWNS CLAIMING TO OFFER VARIOUS SUBJECTS IN THEIR SCHOOLS

	1834	1837	1838-9	1839-40	1840-1
Algebra	3	84	69	93	104
Natural Philosophy	24	66	150	170	181
U. S. History	64	209	177	178	167
Other History	29	94	78	93	62
Mental Science[21]	1	16	66	105	116
Astronomy	18	21	44	58	48
Geometry	2	45	22	23	18
Chemistry	3	18	43	57	41
Political Science[22]	12	9	29	29	30

Such a situation as is indicated by the above figures merely shows that at that period there was in evidence the ambitious attempt on the part of the smaller and lower schools to spread out into the field which properly belonged to the high school.

If it was true that the elementary school encroached on the field of the high school it was also true that it was necessary for the high school to do considerable work which properly belonged in the field of the elementary school. This is evidenced as late as 1860 by the figures given in Tables XX-XXI.[23] There we find that almost all of the studies which pertained properly to the elementary school curriculum were to be found in the curriculum of the high school either in the way of reviews for the first year of the high school course or as actual studies in the high school curriculum proper.

That the disorganized condition of public education caused by the district system had a bad effect on the growth of the high school during the early period there can be little doubt. That a reciprocal influence was brought to bear on the district system by the high school movement when once under way is also true. Above all things the high school once established required a well graded elementary school to contribute to it a body of pupils whose previous training had been more or less uniform and which

[21] Watts, On the Mind. Cf. page 143.
[22] Sullivan's Political Class-book. Cf. page 141.
[23] Cf. pages 83-84.

was designed to lead up to its standards. This the schools maintained under the district system were ill-fitted to do and the effect upon the lower schools of the establishment of high schools in the various towns of the state is clearly discernible in the accounts given by the reports of the school committees. The very fact of a clear plane of differentiation between the functions of the two grades of schools which was maintained toward the end of the period under consideration in this discussion is an indication of the effect of the high school on the elementary school. The maintenance of a high school in any town meant at once the withdrawal of the studies which never should have been a part of the elementary school curriculum but which the lower schools had attempted to include to the detriment of their proper work.

4. The High School in its Relation to the College

The relation between the secondary schools of Massachusetts and the college has always been peculiarly intimate. By the law of 1647 specific provision was made that the master of the grammar school should be able "to instruct youth so farr as they may be fited for the university." At that time the only college was Harvard, so that this provision was to be interpreted in terms of the regulations laid down by that college for the admission of students. The earliest regulations made by the university were those of 1642 drawn up under the direction of President Dunster. In these the requirements for admission were as follows:[24] "When any Scholar is able to read Tully or such like classical Latin Author ex tempore, and make and speake true Latin in verse and prose, suo (ut aiunt) Marte, and decline perfectly the paridigms of nounes and verbes in ye Greeke tongue, then may hee bee admitted into ye College, nor shall any claime admission before such qualifications."

These regulations for admission to Harvard remained essentially the same throughout the seventeenth and eighteenth centuries and for the period of the Latin grammar school the only requirements set by the college were a knowledge of Latin and Greek. In 1807, however, a change was made in the requirements so that some arithmetic and geography were included. In arithmetic the candidate was required to "be well instructed in the following

[24] This translation in manuscript was attached to the original Latin, College Book No. 1. Cf. Broome, Edwin C., College Admission Requirements.

rules of Arithmetic, namely, Notation, simple and compound, Addition, Subtraction, Multiplication, and Division, together with Reduction and the Single Rule of Three." In geography was required the knowledge of a "Compendium of Geography." At the same time specific requirements were made as to the amount and character of the Latin and Greek work. "Each candidate shall be examined in the grammar of the Greek and Latin languages, and in any parts of the following Greek and Latin books, with every part of which he must be acquainted, namely, Dalzel's Collectanea Graeca Minora, The Greek Testament, Virgil, Sallust and Cicero's Select Orations."

In 1820 there was added to the requirements for admission: "Algebra to the end of simple equations, comprehending also the doctrines of roots and powers, arithmetical and geometrical progression." In 1843-44 (catalogue, p. 29) the requirements in mathematics had been extended to include geometry. The examination in the mathematics then comprehended: "In Davies's and Lacroix's Arithmetic, Euler's Algebra or Davies's First Lessons in Algebra" to "the Extraction of Square Root"; and "an Introduction of Geometry and the Science of Form,* prepared from the most approved Prussian Text Books" to "VII, of Proportions."

Ancient History (Worcester's Elements of History) was required as a separate subject in 1846-47 (catalogue, p. 35) and Physical Geography in 1870.

The dates of the introduction of the various subjects required for admission to Harvard up to 1870 may be summarized as follows:

TABLE XIV

Latin	1640 (1642)	Algebra	1820
Greek	1640 (1624)	Geometry	1843-44
Arithmetic	1807	Ancient History	1846-47
Geography	1807	Reading English aloud	1865-66
	Physical Geography	1870	

Throughout the period considered in this discussion the standard requirements for entrance to college which pertained to the Massachusetts schools were those of Harvard. The only other colleges of Massachusetts founded within that period which could have had any

* "Note. The examination upon Geometry will be especially directed to ascertain the distinction of the pupils' ideas upon the nature of form."

appreciable influence on the schools of that state, were Williams College, founded 1793 (1785), and Amherst College, founded 1821. In general the requirements of these colleges for admission of students approximated those of Harvard. It should be noted, however, that arithmetic appears in the requirements of Williams by 1795. In the earlier Amherst catalogues it is not quite clear whether the studies mentioned as "Preparatory Studies" were required before entrance or could be in part completed in college. The evidence seems to favor the former view.[25] If so then the subject of English grammar was one of the entrance requirements of Amherst practically from the establishment of that college in 1821. As early as 1835 at least, such was the case thus antedating the requirements of Harvard. In general, however, it is fair to say that priority of establishment, the large number of her students and graduates, and the prestige of Harvard gave her the leading position in the state and pre-eminence in guiding the educational policy of the state. In some cases we find direct reference to the entrance requirements of one of the smaller colleges: e. g., Amherst, Report 1861-62: "Pupils in Latin will be required to pursue only those studies which are necessary for admission to College, and will use the text-books from which they will be examined for admission to Amherst College." Such direct reference to the requirements of Amherst or Williams are rare, however, and, as in the above instance, are confined to schools in towns in the neighborhood of those colleges.

During the colonial period, as has been said, preparation for entrance to college was the specifically stated aim of the instruction in the secondary schools of Massachusetts. Throughout this period, then, the control of the college over the curriculum of the public secondary school was complete and this control is clearly reflected in the purely classical character of the colonial Latin grammar school. Doubtless the students in these schools, even those who did not continue their work in the college, gained a certain amount of knowledge and secured a certain amount of training which was of value aside from the fact that it prepared them for college. Nevertheless the influence of the college on the secondary schools and their curriculum was out of all proportion to the number of students who entered college. The absurdity of

[25] Cf. "The Substance of Two Reports of the Faculty of Amherst College," page 11.

a law limiting secondary education to preparation for entrance to college is clearly shown by the fact that more Latin grammar schools were required by law in Massachusetts than there were students entering college in any one year during the later colonial period. Thus according to the census of 1790 some 113 Latin grammar schools were required by law; in 1820 were required some 173. As late as 1825 the class entering Harvard contained only 71 Freshmen.

TABLE XV

PREPARATORY STUDIES OF HARVARD, WILLIAMS, AND AMHERST—1829

(Quarterly Register and Journal, Vol. I, 1829, p. 228.)

Harvard	*Williams*	*Amherst*
Latin Grammar	Latin Grammar	Clark's Introduction
Sallust	Caesar	Sallust
Cicero's Orations	Cicero's Orations	Cicero
Virgil	Virgil	Virgil
Greek Grammar	Greek Grammar	Greek Grammar
Greek Reader	Greek Reader, or Graeca Minora	Greek Reader
Four Gospels	Greek Testament	Four Gospels
Prosody	English Grammar	English Grammar
Arithmetic	Arithmetic	Arithmetic
Geography	Geography	Geography
Algebra to Simple Equations	.....	Algebra to Simple Equations

The above presentation of the studies required for entrance to the colleges of Massachusetts in 1829 will give an idea of the general uniformity in those requirements at the beginning of the high school period. The only differences worthy of notice are that Williams College had no requirement for algebra at that time, and that English grammar was not required at Harvard.

Whether or not the type of school represented by the Latin grammar school with its purely classical curriculum was entirely dominated by the college or really represented the general educational aim of the time founded on tradition and previous practice, shortly after the close of the colonial period and about the beginning of the nineteenth century there came a great change in the conception of what the secondary schools should try to accomplish. This was evidenced by the rise of the academy movement, the founding of the English Classical School and of the High School for Girls in Boston, and the passage of the law of 1827.

In the constitution of Phillips Andover Academy, incorporated in the deed establishing that institution in 1778, it was stated that that academy was founded, "for the purpose of instructing Youth, not only in English and Latin Grammar, Writing, Arithmetic, and those Sciences wherein they are commonly taught; but more especially to learn them the *great end and real business of living.*" Instruction was to be given "in the English, Latin, and Greek languages, together with Writing, Arithmetic, Music, and the Art of Speaking"; "Practical Geometry, Logic, and Geography," etc.

In the regulations for the English High School of Boston for 1833 (pp. 14-16) the following statement is found which will indictate the attitude of the founders of that institution: "It was instituted in 1821, with the design of furnishing the young men of the city who are not intended for a collegiate course of study, and who have enjoyed the usual advantages of the other public schools, with the means of completing a good English Education to fit them for active life, or qualify them for eminence in private or public stations. Here is given instruction in the elements of mathematics and natural philosophy, with their applications to the sciences and arts, in grammar, rhetoric, and belles lettres, in moral philosophy, in history natural and civil, and in the French language." A further and equally, if not more, radical step was taken when the High School for Girls was established in 1826 in Boston. Here first was higher education provided for girls in the public school system of Massachusetts.

This schism between the public secondary school and the dominance of the college was furthered by the provisions of the law of 1827. These have been outlined before.[26] At that time the entrance requirements of Harvard College demanded the following subjects: Latin (Grammar, Prosody, Virgil, Cicero's Select Orations, and Sallust), Greek (Grammar, Prosody, the Greek Testament, Dalzel's Collectanea Graeca Minora), Arithmetic, Geography, Algebra. In addition to these subjects the law of 1827 called for training in the history of the United States, bookkeeping, geometry, surveying, history, rhetoric, and logic. It will be seen that the curriculum of the new type of school far transcended the requirements for admission to college.

A further departure from previous conditions and from the

[26] Pages 27-28.

dominance of the college is found in the fact that in the majority of towns preparation for college was entirely ignored by not requiring Latin and Greek in the high schools of towns of less than four thousand inhabitants, and in raising the required population for the maintenance of secondary schools from 200 to 500 families.

Attention has been called before this to the fact that studies once confined to the college curriculum have gradually backed down from the college to the high school.[27] This is clearly attested by the above presented data and is to be seen in the subsequent history of the high school curriculum in Massachusetts. Throughout the period considered in this discussion, beginning in the second quarter of the nineteenth century the influence of the college on the high school was one rather of example than of demand, inasmuch as the legal requirements and the practice of the high schools constantly anticipated the requirements set by the college.

The following table presenting the data regarding the number of students entering the freshman classes of Harvard, Williams, and Amherst at various periods will give some idea of the contribution (as a maximum limit) of the Massachusetts schools to the colleges.

TABLE XVI

THE ENTERING CLASSES AT

	HARVARD		WILLIAMS		AMHERST		TOTAL	
	Total	Mass.	Total	Mass.	Total	Mass.	Total	Mass.
1829-30	55	49	22	13	37	31	114	93
1839-40	76	61	24	9	38	24	138	94
1849-50	87	73	27	10	53	34	167	117
1859-60	128	87	56	21	67	36	251	144

These figures can give but an outside limit of the number of students contributed by Massachusetts to her own colleges. A large number of the entering classes of the colleges came from the academies which toward the end of this period became practically preparatory schools.

[27] Broome, Edwin C., College Admission Requirements, pages 35-36.

CHAPTER V

THE CURRICULUM OF THE MASSACHUSETTS HIGH SCHOOLS PREVIOUS TO 1861.

1. Legal Requirements

Throughout the colonial period, and, in fact, until the passage of the statute of 1827, the laws of Massachusetts required only the Latin and Greek languages to be taught in the secondary school in addition to the subjects required to be taught in the elementary schools. Beginning in 1827, however, the laws required a much more extensive group of studies to be taught, a group of studies which radically changed the character of the secondary school curriculum and created a type of school which was fundamentally different from the older Latin grammar school.

The character of the curriculum thus required by law as a minimum, and the various changes made in the subject matter to be taught in the secondary schools can be seen from the following data which were compiled from the various laws passed in the years indicated. Included here are also data regarding the subjects required to be taught in the elementary schools, that the proper relation between the secondary and elementary schools may be understood more readily. No allowance is made here for the possibility offered by various relief laws for towns to avoid the maintenance of high schools at some periods. On this see the material presented in Chapter II.

Table xvii

Studies Required by Law in Massachusetts — Considered by Subjects

Reading: Required in elementary schools 1647-1898—.
Writing: Required in elementary schools 1647-1898 —.

English Grammar: Required in elementary schools 1789-1898 —.

Arithmetic: Required in elementary schools 1789-1898 —.

Orthography: Required in elementary schools 1789-1898 —.

Geography: Required in elementary schools 1827-1898 —.

Bookkeeping: Required in the high schools of towns of 500 families and over 1827-1898. Until 1835 "by single entry." After 1898 permissive.

United States History: Required in high schools in towns of 500 families and over 1827-1857. Required in elementary schools 1857-1898 —.

General History: Required in high schools in towns of 4000 inhabitants and over 1827-1835 under the head of "history," 1835-1857 under head of "general history." Required in towns of 500 families and over 1857-1898. After 1898 permissive.

Algebra: Required in high schools of towns of 500 families 1827-1857. Required in elementary schools 1857-1858. 1859-1898 — permissive.

Geometry: Required in high schools of towns of 500 families 1827-1898. After 1898 permissive.

Surveying: Required in the high schools of towns of 500 families and over 1827-1898. After 1898 permissive.

Latin: Required in Latin grammar school 1647-1827. Required in high schools of towns of 4000 inhabitants and over 1827-1857. Required in towns of 500 families and over 1857-1898. After 1898 permissive.

Greek: Required in Latin grammar school 1647-1827. Required in the high schools of towns of 4000 inhabitants and over 1827-1898. After 1898 permissive.

French: Required in the high schools of towns of 4000 inhabitants and over 1857-1898. After 1898 permissive.

Rhetoric: Required in the high schools of towns of 4000 inhabitants and over 1827-1898. After 1898 permissive.

Logic: Required in the high schools of towns of 4000 inhabitants and over 1827-1898. After 1898 permissive.

Natural Philosophy: Required in the high schools of towns of 500 families and over 1857-1898. After 1898 permissive.

Chemistry: Required in the high schools of towns of 500 families and over 1857-1898. After 1898 permissive.

Botany: Required in the high schools of towns of 500 families and over 1857-1898. After 1898 permissive.

Astronomy: Required in the high schools of towns of 4000 inhabitants and over 1857-1898. After 1898 permissive.

Geology: Required in the high schools of towns of 4000 inhabitants and over 1857-1898. After 1898 permissive.

Intellectual Science: Required in the high schools of towns of 4000 inhabitants and over 1857-1898.

Moral Science: Required in the high schools of towns of 4000 inhabitants and over 1857-1898.

Civil Polity: Required in the high schools of towns of 500 families and over 1857-1898. Civil government permissive after 1898.

Political Economy: Required in the high schools of towns of 4000 inhabitants and over 1857-1898.

Physiology and Hygiene: Permissive in all schools 1850-1858. Required in common schools 1858-1859. Permissive in all schools 1859-1885. Required of all pupils 1885-1898. Required in elementary schools after 1898 and permissive in high schools.

Vocal Music: Permissive in elementary schools 1859-1898. Permissive in all schools 1898—.

Drawing: Permissive in elementary schools 1859-1882. Required in all schools 1882-1898. Industrial and mechanical drawing permissive in all towns and required in towns of 10,000 inhabitants and over 1870-1898—.

Agriculture: Permissive in all schools 1862-1898—.

Sewing: Permissive in all schools 1876-1898—.

Cooking: Permissive in all schools 1894-1898—.

Manual Training: Use of hand tools permissive 1884-1898—. Manual training required in all towns of 20,000 inhabitants and over 1894-1898. Required in such towns in both elementary school and high school 1898—.

Ethics, Physical Training, Kindergarten Training, etc.: Permissive after 1898.

2. The Curriculum in Actual Practice

A. Variations from the Law

The requirements of the law regarding the subjects to be taught in the schools of Massachusetts have been outlined above. These

subjects formed but a minimum requirement and in actual practice a number were to be found which were not required by the statutes. This was especially true in the larger towns and in towns where the early establishment of secondary schools offered an opportunity for an extended development. On the other hand it is needless to say that many schools failed to live up to the legal requirements. Variations from the curriculum established by law might be found tending in at least five directions:

(1) In towns where no high schools existed there was a constant tendency for the curriculum of the elementary schools to extend itself beyond the requirements of the law for the lower schools and to contain subjects which were at the time or at a later period required by law of the high schools.

(2) High schools in the larger towns and in towns where such schools were early established tended to contain in the curricula subjects which were not required by law.

(3) Some schools credited with being high schools and commonly so considered did not completely conform with the legal requirements with regard to the subjects taught.

(4) Towns of five hundred families but of less than four thousand inhabitants and thus required to maintain high schools of lower grade only, tended, once they had established high schools at all, to include within the high school curricula some or all of the subjects required only of high schools of higher grade.

(5) Several towns not required by law to maintain high schools at all, did establish such schools and afforded instruction in high school subjects not required of them.

Let us consider these points seriatim.

It has frequently been supposed that the ranking of a school, primary, grammar, or high, could be established approximately by the subjects taught in that school. This is, of course, essentially true, but in the case of Massachusetts schools at some periods such a criterion as this would be more or less misleading. As has been shown before the ranking of a school in that state was determined by law and the subjects to be taught in each kind of school was specifically determined.

The studies prescribed by law to be taught in the common schools have been outlined before. From 1827 on they were, in general: reading, writing, English, grammar, orthography and geography.

Algebra and United States history were added in 1857. Yet as early as 1840 the common schools had reached out far beyond the legal requirements and many claimed to teach numerous branches higher than those required by law. This can be seen from the data presented in Table XVIII, which was compiled from the Abstracts of School Returns of Massachusetts from 1837 to 1841. Owing to the incompleteness of the returns and the unreliability which is evident in some cases, exactness is not to be looked for in the summary and too much reliance ought not to be placed on the figures given. Nevertheless the general trend is too evident to be negated by the incompleteness and inaccuracy of the returns, and it is clear that in the effort to extend their sphere of influence the elementary schools had by 1840 far transcended the legal requirements.

TABLE XVIII

Number of Towns Claiming to Offer Various Subjects 1834-1841

	1834	1837	1838-9	1839-40	1840-1
Towns reporting	261	294	298	301	304
Algebra	3	84	69	93	104
Natural Philosophy	24	66	150	170	181
U. S. History	64	209	177	178	167
Other History	29	94	78	93	62
Mental Science	1	16	66	105	116
Astronomy	18	21	44	58	48
Geometry	2	45	22	23	18
Chemistry	3	18	43	57	41
Political Science	12	9	29	29	30
Moral Science	4	5	21	17	13
Bookkeeping	1	5	17	24	21
Latin	3	4	11	21	16
Greek	1	3	7	12	5
French	0	0	5	5	3
Rhetoric	9	5	19	17	18
Logic	2	0	5	7	3
Surveying	2	4	15	13	15
Navigation	0	2	4	5	5
Trigonometry	0	0	2	2	3
Botany	3	2	9	9	3
Geology	0	0	1	1	1
Natural History	1	1	2	3	2
Anatomy and Physiology	0	1	1	2	1

In estimating these data it must be remembered that many towns did not report and that many towns which did report failed to give anything like exact data regarding the studies pursued.

From this table we may note that, while certainly not more than about eighteen high schools existed in the state in 1840,[1] more than one-third of the towns of the commonwealth claimed to offer algebra and mental science (Watts On the Mind); more than one-half claimed to offer natural philosophy and the history of the United States; and many towns claimed to offer astronomy, geometry, chemistry, political science, etc., all of which were then or became later required subjects for the high school. It has frequently been supposed that the study of algebra was one which would serve to mark off and differentiate the high school curriculum from that of the elementary school. How far that is from being the case here can be seen from the above data.

In the following table a further indication is given of the extent to which the curriculum of the elementary school had encroached on the work of the high school. The table shows the number of towns claiming to offer courses in the subjects required for high schools in towns of five hundred families by the law of 1827.

TABLE XIX

	1837	1838-9	1839-40	1840-1
United States History	209	177	178	167
Bookkeeping	5	17	24	21
Geometry	45	22	23	18
Surveying	4	15	13	15
Algebra	84	69	93	104
History other than U. S.	94	78	93	62

This state of affairs is confirmed by the statements found in many reports. Witness the Report of the Committee of Schools of Danvers for 1850:[2] "We were indicted only for not having an English High School. But in almost all the schools in town, the branches which are required to be taught in such an institution have long since been introduced, and teachers have been employed to give instruction relating to them, and other advanced studies not required by the Statute; so that in fact we have had for a series of years a dozen English High Schools every winter instead of one."

[1] Cf. pages 42-46.

[2] Danvers report for 1850, page 7.

It was not to be expected that the larger and more wealthy towns would restrict the curricula of their high schools to the subjects required by a state law which was made to suit the needs of the whole state and which was to be considered as a minimum requirement. Hence we find in the high schools of such towns various subjects taught which were either in advance of legislation or altogether beyond the range of studies ever prescribed by statute.

The curriculum proposed and accepted for the Boston English Classical School (= English High School) for 1821 is given on pages 16-17. It will be noted that here are found essentially all the subjects prescribed later for the state by the law of 1827 except bookkeeping, though Latin and Greek are relegated entirely to the Latin Grammar School. In addition we find trigonometry, navigation, mensuration, natural philosophy, astronomy, moral and political philosophy. By 1823 were added bookkeeping by single and double entry, sacred geography, natural theology, evidences of Christianity. The High School for Girls of Boston (begun 1826 and suspended 1828) offered, in addition to the other studies, history of England, botany, French, and map-making. Thus before the passage of the act of 1827, in Boston at least a rather extensive curriculum had already been in operation.

Afterward we find many towns offering subjects in the curricula of the high schools which far transcended the legal requirements: E. g., in Nantucket in 1855 a Committee of Teachers prepared a program of studies which included, in addition to the subjects legally required of high schools, astronomy, trigonometry, natural philosophy, chemistry, physical geography, meteorology, natural history, botany, geology, mineralogy, natural theology, mental philosophy, moral philosophy, French, German, political economy, and English literature.

Strictly speaking a school which did not completely fulfil the requirements of the fifth section of the twenty-third chapter of the Revised Statutes (1835) and all the laws which were based on the law of 1827, could not legally claim to be a high school. Nevertheless several schools which failed to meet the requirements of the law in full, did assume that nomenclature and were commonly so designated, even by the secretary of the state board. In such cases it frequently was true that the so-called "High School" did not contain in its curriculum some of the studies prescribed

by law for high schools, so much so that on more than one occasion the school committee complained that the "High School," as far as its curriculum was concerned, was nothing but a rather elevated district school. E. g., Clinton (1851, 1852, 1853), Adams (1855-56), Abington (1855), Brookline (1854-55, p. 10,) Barre (1859-60, p. 22), Gloucester (1839, p. 1), Newburyport (1852, p. 5), Palmer (1859, p. 9), Milford (1858-59, pp. 5-7).

The statutes drew a clear division between the two grades of high schools for which they provided, both as to the necessity of establishing them and as to the studies prescribed for each. Nevertheless, from the administrative side, once a high school of lower grade (prescribed in towns of five hundred families and over) was established, it was not difficult to extend the curriculum to cover such subjects, in full or in part, as were required in towns of four thousand inhabitants and over. Hence we find that towns of between five hundred families and four thousand inhabitants tended to include in the high school curriculum some or all of the subjects required in towns of four thousand inhabitants and over only. This was especially true of the study of the classical languages even before Latin became a required subject in high schools of lower grade in 1857.

While some towns of the state in which the law required the maintenance of a high school failed in their duty, several others, not legally bound to do so, established high schools. Statutory grounds for this were specifically given in the laws of 1852 (chapter 123) but before this, justification had been given as early as 1845, represented by an opinion of the Supreme Court in the case of Cushing vs. The Inhabitants of Newburyport (10 Metcalf, 508). In that case the court held that "The power of towns to vote and grant money for the support of town schools is not restricted to the amount that is necessary to support the school which the first five and sixtieth sections of C. 23 of the Rev. Sts. require them to support, under penalty for refusal so to do, but they have the power to vote and grant money for the support of other town schools, for instruction in branches of knowledge which the revised statutes do not require to be taught in such schools."

The extent to which high schools were established in towns of less than five hundred families can be seen from the data given on page 37. A list of such towns for 1864 is given in the Twenty-eighth Annual Report of the Board of Education for 1865, page 91.

Further knowledge of this can be found in the Twenty-fourth Annual Report of the Board of Education for 1861, page 93: "In 1856 there were eighty high schools in the state, and in seventy of these the Greek and Latin languages were taught. There are now known to be one hundred and two high schools in which the Latin and Greek languages are taught."

B. Requirements for Admission

In one sense it is a pure anomaly to speak of *the* curriculum of *the* Massachusetts high school, inasmuch as each high school in the state had its own curriculum which changed from period to period. In another sense, however, we may rightly speak of such a curriculum as a reasonably definite thing. The group of studies prescribed by the statutes formed a core about which all other subjects were assembled and in the subject matter required by law we have a minimum curriculum which was generally accepted.

The law, however, went no further than to prescribe what subjects should be taught. It gave no directions as to the amount of each subject to be taught, the manner in which it should be taught, or the position which it should occupy in the curriculum. Neither did the law prescribe the point at which the high school work should begin with reference to the age or attainment of those pupils which were to be admitted to the high schools. Nay more, the wording of the statutes of 1827-1859, was such as to imply that the studies prescribed for the lower schools should be continued in the high school, stating that the master of the high school should be competent to instruct "in addition to the branches of learning aforesaid." In other words the statutes not only failed to provide for any gradation in the high school or previous to the high school, but even fostered a situation which favored ungraded schools to the extent above mentioned. However, the need for some restrictions and for some regulations regarding admittance to the high school soon forced itself on towns which maintained such schools and there gradually developed some well defined ideas and practices regarding entrance to the high school.

While the law did not prescribe any studies which should be required for admission to the high school, it did make provision for some means to meet the situation. This it did by granting to the school committee of each town the power to lay down certain qualifications for admission:

"The school committee shall determine the number and qualifications of the scholars to be admitted into the school kept for the use of the whole town as aforesaid."

Conforming with this provision certain qualifications for admission to high schools were laid down by the school committees of the various towns in which those schools were maintained. As would be expected in the smaller towns, difficulties in gradation made it impossible to maintain any strict enforcement of such requirements but in general a fairly well determined standard for admission was established throughout the high schools of the state. These qualifications followed two different lines: a minimum age requirement and a proof of ability as tested by examination in certain subjects. Of these the minimum age requirement seldom had any very binding force and was commonly employed in conjunction with other requirements for ability as measured by examinations. When there was an age limit set it generally ranged between ten and twelve years. Wherever a later age was set it usually meant that pupils could be admitted on examination at an earlier age, but that any pupil over the age limit could be admitted regardless of qualifications. E. g., Wayland (1854), South Reading (1846, 1852, 1853).

In the larger cities at an early period, and in practically all towns in which high schools were maintained at a later date, the requirement for admission to the high school was the ability to pass an examination in the subjects of the grammar school, reading, writing, spelling, grammar, arithmetic, and geography.[3] This we find as early as 1823 in the English High School of Boston. In some cases the requirements specifically state that the subjects required for admission are the grammar school studies. E.g., Westfield (1854-55), Worcester (1844), Taunton (1855-56), South Danvers (1857), Plymouth (1857), Quincy (1853), Nantucket (1848). In a few cities candidates were also required to pass an examination in the history of the United States. E. g., Salem (1857), Rockport (1858), New Bedford (1851, 1860), Newburyport (1854, 1857, 1858, 1859), Malden (1860, p. 14).

Proficiency in these subjects was tested regularly by means of examinations, which frequently were given to the students in printed form. For examples of some of these examinations

[3] Cf. Cambridge, Regulations of the Public Schools, August 6, 1849, p. 15.

for entrance to the high school see the reports of South Danvers (1858-59, p. 11), Newton (1860-61, p. 47).

C. Extent of the Curriculum

In discussing the terms of admission above we have seen the material with which the high school had to work. Briefly it was as follows: a group of pupils whose previous training had provided a more or less satisfactory knowledge of reading, writing, grammar, geography and arithmetic, with the addition in some cases of United States history. The age of admission, then as now, necessarily varied. In Danvers in 1860,[4] the actual average age of those admitted into the first class was 14.8 years. In South Danvers in 1861,[5] it was fourteen years and eleven months. In Worcester in 1861,[6] the average age of seventy-six pupils in the first year class was fifteen years and seven months and of the senior class of twenty students the average age was seventeen years and eight months. In general the reports would seem to indicate that the average age of entrance into the high school was about fourteen years.

What was the actual training which the pupil received in the high schools? Unfortunately the data which are obtainable are so unsatisfactory in their character, so incomplete, and given in such varying form that any full and exact analysis of the situation is impossible. However, an attempt has been made in the following pages to present some data which will give an idea of the situation. The following table presents data gathered from the reports, regulations, etc., of all the high schools existing in 1860 or before that date. Data are here presented indicating the town and year in which each subject appears first in the program of studies. In addition there are presented figures indicating the number of towns in a selected group of sixty-three towns in whose high school programs the various subjects were to be found up to 1861. In this group there are forty towns which in 1860 contained four thousand inhabitants or over, fifty-five towns of five hundred families or over, and eight towns of less than five hundred families and therefore not required by law to maintain a high school.

[4] Danvers report for 1860, p. 11.
[5] South Danvers report for 1861, p. 16.
[6] Worcester report for 1861, p. 35.

TABLE XX

CURRICULA OF SIXTY-THREE TOWNS BEFORE 1861

Subject	First Appearance in Curriculum of a High School: *Place*	*Year*	Number Showing Subject in the H. S. by 1860-61	*Notes*
Reading	Boston	1821	60	1, 6
Writing	"	1821	50	1, 6
Spelling	"	1821	53	1, 6
Grammar	"	1821	62	1, 6
Composition	"	1821	55	1
Rhetoric	"	1823	47	8
Declamation	"	1821	47	2, 3
Literature	"	1821	32	4
Forensics	"	1827	1	
Criticism	"	1821	5	
History of Literature	Plymouth	1857	2	
MATHEMATICS:				
Arithmetic	Boston	1821	59	1, 3, 6
Algebra	"	1821	63	2, 3, 6
Geometry	"	1821	61	2, 3, 7
Trigonometry	"	1821	37	2, 3
Surveying	"	1821	45	2, 3, 7
Navigation	"	1821	15	2, 3
Mensuration	"	1821	15	2, 3
Analytic Geometry	Newburyport	1855	1	
LANGUAGES:				
Latin	Boston	1635	63	2, 3, 7
Greek	"	1635	55	2, 3, 8
French	"	1826	55	8
German	Dorchester	1854	6	
Spanish	Salem	1830	4	
Italian	Brighton	1843	2	
GEOGRAPHY:				
Ancient	Boston	1821	23	2, 6
Modern	"	1821	16	5
Sacred	"	1823	4	
Physical	Lowell, Cambridge	1852	43	
HISTORY:				
Ancient	Boston	1821	23	2
Modern	"	1821	16	5
United States	"	1821	39	6
General	"	1823	50	7
Mediaeval	Charlestown	1855	4	
England	Boston	1814 (?)	13	3

NOTES: 1. Found in lower schools before 1821. 2. Found in Latin grammar schools before 1821. 3. Found in the curriculum of the Boston Public Latin School during Gould's regime (1814-1828). Cf. Jenks, Boston Public Latin School, pp. 60 ff. 4. This includes the study of English authors. 5. The various parts of geography and history cannot always be clearly discovered from the reports, etc. 6. Required in the common schools by the law of 1857. 7. Required in the high schools of towns of five hundred families by the law of 1857. 8. Required in the high schools of towns of four thousand inhabitants by the law of 1857.

TABLE XX (*Continued*).

Subject	*First Appearance in Curriculum of a High School* — *Place*	*Year*	*Number Showing Subject in the H. S. by* 1866-1	*Notes*
France	Salem	1827 (?)	2	
Massachusetts	Springfield	1861	1	
Connecticut	Sandisfield	1839	1	
POLITICAL SCIENCE:				
U. S. Constitution	Boston	1828	28	7
Mass. Constitution	Salem	1842	11	7
City Charter	"	1842	1	
Pol. Economy	"	1842	16	8
Pol. Philosophy	Boston	1821	17	
SCIENCE:				
Nat. Philosophy	Boston	1821	60	7
Chemistry	"	1826	52	7
Astronomy	"	1821	51	8
Physiology	Ipswich	1839	46	
Botany	Boston	1826	42	7
Geology	Northampton	1837 (?)	33	8
Zoology	Waltham	1849	18	
Nat. History	Boston	1833	20	
Mineralogy	Northampton (?)	1837 (?)	6	
Meteorology	Springfield	1852	4	
Mechanics	Boston	1852	2	
Engineering	"	1852	2	
Household Sci.	Springfield	1858	1	
Agricult. Chemistry	Ipswich	1845	2	
Arts and Sciences	Boston	1823	1	
Anatomy	Edgartown	1837	7	
Technology	Concord	1851	1	
MORAL SCIENCE:				
Moral Philosophy	Boston	1821	36	8
Nat. Theology	"	1823	15	
Ev. of Christianity	"	1823	8	
Ethics	Cambridge	1852	3	
Butler's Analogy	Lynn	1850	5	
MISCELLANEOUS.				
Logic	Boston	1821	22	8
Bookkeeping	"	1823	55	7
Intel. Philosophy	"	1829	45	8
Drawing	"	1826	25	
Music	Northampton	1837	19	
Book of Commerce	Plymouth	1838	5	
Phonography	Waltham	1854	1	
Needle-work	Worcester	1840	1	

NOTES: 1. Found in lower schools before 1821. 2. Found in Latin grammar schools before 1821. 3. Found in the curriculum of the Boston Public Latin School during Gould's regime (1814-1828). Cf. Jenks, Boston Public Latin School, pp. 60 ff. 4. This includes the study of English authors. 5. The various parts of geography and history cannot always be clearly discovered from the reports, etc. 6. Required in the common schools by the law of 1857. 7. Required in the high schools of towns of five hundred families by the law of 1857. 8. Required in the high schools of towns of four thousand inhabitants by the law of 1857.

In the preceding table there are several points of interest:

(1) Making allowance for the incompleteness of the original data, it is evident that the subjects prescribed by the law of 1857 for the grammar and primary schools were regularly continued in some form in the high schools. The percentages of towns in this group whose reports specifically show this are as follows:

TABLE XXI

	Towns	Per Cent.
Reading	60	95.2
Writing	50	79.4
Spelling	53	84.1
Grammar	62	98.4
Geography (all except physical)	43	68.3
Arithmetic	59	93.7
United States History	39	61.9
Algebra	63	100.0

Inasmuch as this group of sixty-three towns and cities probably represents the better graded high schools and school systems in general, doubtless if all the original data were available, the percentages above would be increased.

(2) Of the subjects required by law to be taught in the high schools of towns of over five hundred families, comprising fifty-five of the sixty-three towns selected for examination the percentages found are as follows:

TABLE XXII

	Towns	Per Cent.
General History	50	79.4
Bookkeeping	55	87.3
Surveying	45	71.4
Geometry	61	96.8
Natural Philosophy	60	95.2
Chemistry	52	82.5
Botany	42	66.7
U. S. Constitution	28	44.4
Mass. Constitution	11	17.5
Latin	63	100.0

It will be noted here that general history, surveying, botany, United States Constitution, and the civil polity of Massachusetts fall rather low in the list. Possibly the percentage of general

history would be raised if we include a total of several special departments of history given separately in the reports, but which if taken collectively would meet the requirement of "general history." Doubtless the requirement of "the civil polity of this Commonwealth and of the United States" was met in a more or less vicarious way in connection with United States history, political philosophy, etc., as is the case in many of the schools of the present day. Possibly also surveying might rise higher in the scale if we were able to separate the cases where "trigonometry" meant "trigonometry and its applications," as was frequently the case earlier. Still, even with these qualifications it would appear that the legal requirements for this type of high school were not by any means universally met, especially when we remember that we are considering here a selected group of towns.

(3) Of the subjects required by law in high schools in towns of four thousand inhabitants and over, of which there are forty in this group of sixty-three towns, the following percentages are found:

TABLE XXIII

	Towns	Per Cent.
Greek	55	87.3
French	55	87.3
Astronomy	51	80.9
Geology	33	52.4
Rhetoric	47	74.8
Logic	22	34.9
Mental Science	45	71.4
Moral Science	36	57.2
Political Economy	16	25.4
Political Economy united with Political Science	25	39.7

These figures indicate clearly that, even within the selected group and making all reasonable allowance for the incompleteness of the returns, the subjects required by the law of 1857 in towns of four thousand inhabitants and over, were not properly attended to in most schools up to 1861. This will be clearer if we consider only within the selected group of sixty-three towns, the forty

towns in which schools of the higher grade were required. The figures are:

TABLE XXIV

	Towns	Per Cent.
Greek	39	97.5
French	37	92.5
Astronomy	36	90.0
Geology	27	67.5
Rhetoric	33	82.5
Logic	18	45.0
Mental Science	32	80.0
Moral Science	29	72.5
Political Economy	14	35.0
Political Economy united with Political Philosophy	22	55.0

(4) Of subjects not legally required to be taught in the public schools the following are most noteworthy:

TABLE XXV

	Towns	Per Cent.
Trigonometry	37	58.7
Physical Geography	43	68.3
Physiology	46	73.0
Natural History	20	31.8
Drawing	25	39.7

These special subjects will be discussed later in Chapter VI.

D. Proportion of Students in Various Subjects

To gain an idea of the curriculum of a school it is not sufficient to get a list of the subjects set down in the program of studies as subjects offered. The really vital question is: To what extent did these studies actually enter into the training of the pupils? One phase of this problem may be measured by the number of students actually pursuing the various subjects of the curriculum. Unfortunately here again we must face the difficulty of incomplete returns. No such data as are presented for instance in the reports of the United States Commissioner of Education for the last decade of the nineteenth century, are to be looked for. The material with which we must deal is to be found only in fragmentary form, some towns never presenting any such data in their reports, others giving fairly complete records for a series of years, but most reports presenting the data only occasionally. Naturally the situation varies considerably in the different towns, the variations being conditioned by local considerations, the

character of the population, the location of the city, the presence or absence of a well graded school system, local traditions, etc. Nevertheless some of the data presented in the following pages are of value in lieu of more explicit material.

In the year 1842 Horace Mann, then secretary of the Massachusetts Board of Education, carried on an investigation of the high school curriculum throughout the state. His report was as follows:[7]

"During the last year I have obtained returns from almost every public school in the state, respecting the number of scholars who are engaged in studies above the elementary or statutory course prescribed for the lowest grade of our schools. The result is the following:

TABLE XXVI

Scholars studying History of the United States	10,177
" " General History	2,571
" " Algebra	2,333
" " Bookkeeping	1,472
" " Latin Language	858
" " Rhetoric	601
" " Geometry	463
" " Human Physiology	416
" " Logic	330
" " Surveying	249
" " Greek Language	183

"In some of the public schools other branches, such as botany, chemistry, natural history, astronomy, intellectual philosophy, and the French language are attended to, but as these are not included in the statutory course prescribed for the highest grade of schools, I have not obtained any particular information respecting them."

In interpreting this table it is well to keep in mind the data presented on pages 64, 75, regarding the subject matter of the lower schools.

Out of a total of considerably over five thousand reports examined, including the reports of all towns claiming to maintain high schools, only about eighty-one reports from about twenty-five towns give any data which approach definiteness and completeness regarding the number of students pursuing the various subjects. Of these only about ten reports from eight different

[7] Report for 1843 (VI), page 55.

towns offer data for any year previous to 1850, and of the total not more than eight towns offer data on this subject for a consecutive series of years. These are Springfield (1855-1861), Millbury (1858-1861), Lawrence (1850-1854), Lowell (1849-1851), Lynn (1850, 1854-1861), Haverhill (1857-1861), Gloucester (1855-1857), Danvers (1857-1860).

TABLE XXVII

STUDENTS PURSUING VARIOUS SUBJECTS AT ABOUT 1840. TWO TOWNS

Subject	Northampton, 1837, p. 14 Number	Per Cent.	Haverhill, 1842-3, p. 5 Number	Per Cent.
Students in school	274	....	72	....
Algebra	26	9.5	14	19.5
Geometry	10	3.7	..	....
Latin	45	16.4	17	6.2
Greek	27	9.9	3	4.2
French	9	3.3	9	12.5
Astronomy	56	20.4	..	....
History	89	32.5	26	35.1
Natural Philosophy	30	10.9	7	9.7
Bookkeeping	5	1.9	6	8.3
Chemistry	12	4.4	2	2.7

From such data as the above no conclusions can be drawn except, perhaps, that there was great variation among the several towns in the proportion of students pursuing the different branches of study in the curriculum.

A somewhat similar situation is found in the case of the following three towns at the period of 1846-1847.

TABLE XXVIII

STUDENTS PURSUING VARIOUS SUBJECTS AT ABOUT 1847. THREE TOWNS

Subject	Worcester, 1846, p 9 No.	Per Cent.	Lowell, 1847, p. 21 No.	Per Cent.	Newburyport, 1847, p. 5f. No.	Per Cent.
Students in school	213	....	185	....	About 207	....
Algebra	38	17.8	33	17.9	49	23.7
Geometry	20	9.4	13	7.0	44	21.3
Latin	96	45.1	87	47.0	34	16.4
Greek	15	7.0	9	4.9	17	8.2
French	15	7.0	..	0.0	43	20.8
Astronomy	..	0.0	..	0.0	16	7.5
History	70	32.9	50	27.0	126	60.9
Bookkeeping	10	4.7	70	37.8	37	17.9
Natural Philosophy	..	0.0	39	21.1	72	34.8
Moral Philosophy	..	0.0	20	10.6	..	0.0
Rhetoric	..	0.0	18	9.7	..	0.0
Trigonometry	..	0.0	5	2.7	7	3.4
Natural History	..	0.0	46	24.9	..	0.0

The following figures indicate the returns for 1850 from the towns of Ware (1850-51, p. 5), Roxbury (1850, p. 4), Plymouth (1850), Marblehead (1850, p. 3), Lowell (1851, p. 59), and Lynn (1850, p. 17):

TABLE XXIX

TOTAL NUMBER OF STUDENTS IN VARIOUS SUBJECTS AT ABOUT 1850. SIX TOWNS

Subject	Towns Offering Subject	Number Students	Per Cent. Base Algebra[8]
Algebra	6	192	100.0
Geometry	5	56	30.8
Latin	6	253	139.0
Greek	4	23	13.7
French	5	202	111.0
Natural Philosophy	4	315	194.4
Chemistry	3	61	41.2
Astronomy	2	82	78.8
Physiology	5	211	141.6
Botany	1	10	10.5
History	3	141	118.5
Intellectual Philosophy	3	25	21.9
Moral Philosophy	1	90	94.7
Bookkeeping	3	176	115.0
Rhetoric	2	47	34.1
Natural History	1	42	44.2

A similar estimate is summarized below for the year 1860-1861 from the returns of the towns of Springfield (1860, p. 62), Randolph (1860, p. 56), Millbury (1860, p. 10), Lynn (1860, p. 11), Haverhill (1860, p. 11), Danvers (1860, p. 11), Plymouth (1861, p. 16):

[8] Inasmuch as the total number of students in each town in the high school is sometimes omitted, algebra has been adopted here as a basis for estimating the number of students in the various subjects for purposes of comparison. In each case the percentage has been reckoned with reference to the number of students taking algebra in those schools only which offer the subject in question.

TABLE XXX

TOTAL NUMBER OF STUDENTS IN VARIOUS SUBJECTS AT ABOUT 1860.
SEVEN TOWNS

Subject	Towns Offering Subject	Number Students	Per Cent. Base Algebra
Algebra	7	259	100.0
Geometry	7	201	74.1
Surveying	2	9	15.0
Latin	7	433	167.2
Greek	3	32	19.0
French	5	203	99.0
Natural Philosophy	6	195	81.3
Chemistry	5	103	50.7
Astronomy	4	121	68.0
Geology	3	69	54.8
Zoology	1	57	158.3
Botany	3	78	61.9
History	6	388	200.0
Rhetoric	4	90	65.5
Bookkeeping	7	144	55.6
Physical Geography	4	131	94.2
Intellectual Philosophy	4	83	48.7
English Literature	2	47	60.3
Household Science	1	26	72.2
Natural Theology	1	7	28.0
Physiology	4	106	76.8
Moral Science	5	116	57.1

From such data as these it is of course unsafe to draw any conclusions as to the relative prominence of any subject, and any attempt to generalize from these data except in the broadest way would be unjustifiable. They are presented here only in the attempt to afford the best data to be found in the reports and to indicate some very general estimates. Even within individual towns the variation from year to year was very great as is shown by the returns for Springfield presented on page 93.

In the report of the School Committee of Lowell for the year ending December 31, 1851 (Twenty-sixth Annual Report, pp. 52 ff), there is contained an unusually full and comprehensive analysis of the curriculum of that city for the period 1849-51. While we must remember that the data there given apply to that city only and cannot in any way give us a view of the general situation at that time, the figures are suggestive and are the most complete to be found. The most important portion of

that report bearing on the subject at present under discussion is therefore reproduced below.

"Forty-eight per cent. of the entire time devoted to study in the High School is now devoted to the *Grammar School studies.*" (page 55)

"Algebra commands 23 per cent. of the scholars; Geometry 4 per cent.; Trigonometry 2 per cent. Not a male pupil has studied Trigonometry for three years. The highly important studies of Intellectual and Moral Science have not found a single student in the male department within the term of three years; while the former has been pursued by 6 per cent. of the female department, and the latter by 33 per cent. In the classical department, for which a separate school is provided in cities of half the population of Lowell, and which is here supported at considerable charge to the public revenue, an average of 5 per cent. only of the male department, and none of the female department is pursuing Greek; while an average of 37 per cent. of the entire school attend to Latin, 19 per cent. of females study French, to *none* of the males." (page 60)

TABLE XXXI

LOWELL HIGH SCHOOL

Per Cent. of the Whole Number of Scholars in Each Department

Studies	1849		1850		1851		Mean % 3 yrs.	
	Male	Female	Male	Female	Male	Female	Male	Female
Reading	49	100	27	100	49	100	42	100
Spelling	51	80	42	100	42	100	45	63
Penmanship	67	90	54	68	70	89	60	82
Arithmetic	84	71	84	48	64	20	77	46
English (Grammar)	34	100	12	100	21	100	33	100
English (Parsing)	49	...	41	...	36	...	...	...
Geography	19	18	16	34	...	56	12	36
History, United States	...	34	...	25	25	12	8	24
Physiology	4	38	15	24	5	40	8	35
Composition	100	100	98	100	72	100	90	100
Rhetoric	...	12	...	10	...	7	...	10
Declamation	100	...	98	...	90	...	95	...
Useful Arts	17	...	15	...	14	...	15	...
Natural Philosophy	35	18	34	30	23	8	34	19
Natural History	...	34	...	17	8	26	3	26
Astronomy	...	8	9	15	12	16	7	13
Chemistry	...	8	15	7	29	15	15	10
Botany	...	9	...	4	...	2	...	5

TABLE XXXI—*Continued*

LOWELL HIGH SCHOOL

Per Cent. of the Whole Number of Scholars in Each Department

Studies	1849		1850		1851		Mean % 3 yrs.	
	Male	Female	Male	Female	Male	Female	Male	Female
Bookkeeping	54	18	58	25	43	18	51	20
Algebra	16	24	23	23	25	23	21	23
Geometry	6	8	4	2	9	2	6	4
Trigonometry	...	...	...	...	...	5	...	2
Intellectual Philosophy	...	3	...	7	...	8	...	6
Moral Science	...	49	...	36	...	15	...	33
French Language	2	52	...	58	7	66	3	59
Latin Language	33	40	36	32	36	36	35	39
Greek Language	2	...	6	...	7	...	5	...
Number of Scholars	169	232	160	249	161	220	163	234

"This above table has been prepared with care from the schedules, printed by the instructors of the High School, at the end of each term. It includes all the facts in the schedules." (Pages 59-60 of the report.)

"The following summary of the above table shows the result of classifying the different studies. The Grammar School studies include Reading, Spelling, Grammar, Geography, Arithmetic, Penmanship, History of the United States, and Physiology. The Natural Sciences include Natural Philosophy, Natural History, Astronomy, Chemistry, and Botany. Other English Studies embrace Composition, Rhetoric, Useful Arts, and Declamation. Higher Mathematics include Bookkeeping, Algebra, Geometry, Trigonometry."

Classes of Studies	1849		1850		1851		Mean % 3 yrs.	
	Male	Female	Male	Female	Male	Female	Male	Female
Grammar School Studies	40	66	32	62	32	65	35	64
Natural Sciences	7	15	12	15	15	13	11	14
Intellectual and Moral Sciences	..	26	..	22	..	8	..	19
Other English Studies.	45°	28	45	28	35	27	42*	28
Higher Mathematics	19	13	21	13	19	12	20	13
French Language	..	26	..	22	..	8	..	19
Classical Studies	18	20	21	16	22	18	20	18

*Large number caused by including Declamation. Otherwise about 30 per cent.

The most complete data regarding the proportion of students pursuing the various subjects are found in the case of the Springfield High School for the period 1855-1861. The percentages are estimated from the figures given in the reports for those years on the pages cited. The attendance for the various years is given on page 38 of the report for 1861.

TABLE XXXII

SPRINGFIELD HIGH SCHOOL

Percentage of Students Pursuing Various Subjects

	1855, p. 37	1856, p. 38	1857, p. 48	1858, p. 66	1859, p. 66	1860, p. 62	1861, p. 44	1855-1861
ATTENDANCE	186	166	156	172	166	173	163	1182
SUBJECT								
Algebra	40.3	40.4	26.3	27.9	32.5	20.8	55.2	34.8
Geometry	31.2	47.6	40.4	16.3	33.7	9.8	14.7	27.5
Mensuration	0.0	0.0	0.0	0.0	12.7	0.0	0.0	12.7
Latin	38.7	44.0	47.4	45.3	44.0	38.2	28.8	40.9
Greek	4.8	5.4	4.5	2.9	3.6	0.6	3.7	3.6
French	25.1	26.5	28.2	7.0	6.0	38.2	3.7	19.5
Natural Philosophy	6.5	7.8	19.2	20.3	9.0	8.7	47.2	16.8
Chemistry	11.3	16.9	12.8	12.8	13.3	12.1	16.0	13.5
Astronomy	13.4	30.7	17.9	20.9	12.7	19.6	21.5	19.5
Botany	8.1	12 0	14.7	12.8	13.3	9.2	0.0	11.6
Geology	5.4	6.6	11.5	8.1	16.3	8.1	13.5	9.9
Zoology	0.0	0.0	0.0	0.0	9.6	33.0	9.2	17.3
Household Science	0.0	0.0	0.0	21.5	12.7	15.0	13.5	15.7
Meteorology	42.5	10.8	12.2	0.0	0.0	0.0	0.0	22.8
Physiology	35.4	0.0	0.0	23.8	10.8	22.0	22.7	23.3
Physical Geography	0.0	38.6	12.2	16.9	11.4	11.6	17.2	18.0
Bookkeeping	11.8	7 8	14.7	20.9	9.6	11.6	20.9	13.9
Rhetoric	5.4	15.1	12.2	30.2	17.5	20.2	22.1	17 5
English Literature	0.0	7.2	12.2	9.3	13.3	16.8	10.4	11.5
English Grammar	21.0	13.9	17.9	23.2	39.2	36.4	17.2	24.3
Intellectual Philosophy	6.5	7.8	9.0	19.8	10.2	14.4	8.0	10.8
Moral Philosophy	0.0	14.5	0.0	9.9	15.7	21.4	10.4	14.4
History (All)[9]	62.9	70.5	70.5	51.2	67.5	74.0	(105.5)[9]	(71.4)[9]
U. S. Constitution	8.1	0.0	0.0	0.0	0.0	0.0	0.0	8.1
Natural Theology	0.0	0.0	12.2	10.5	0.0	0.0	0.0	11.3
Arithmetic	53.8	30.1	69.2	48.3	38.6	0 0	49.1	48.1
Geography	21.5	20.5	31.4	34.3	9.6	36.4	25.8	25.5

From an examination of such fragmentary data as are available, of which examples have been given on the preceding pages, none but the most general, and, in some cases, negative conclusions can be drawn. From the early period previous to 1850 too little material apparently exists to warrant any conclusions which would apply to any but particular towns. For the subsequent period such data as are given in tables XXVII–XXXII, show the great variation which existed between towns at the same period. Tables

[9] It is impossible to analyze the double registration which obviously is involved here.

XXIX–XXX show us that there was no close relation between the proportion of students in any subject in 1850 and 1860. The returns of the Lowell High School for 1849-1851 and of the Springfield High School for 1855-1861 indicate clearly that even within any given town there was a great variation from year to year in the proportion of students in the different subjects.

All we can say on this topic is that certain subjects with a fair degree of constancy attracted a relatively high number of students and others a relatively low number. Ignoring subjects which apparently had special vogue in particular towns or at particular periods and subjects which belonged more properly to the elementary school, we may say that algebra, geometry, Latin, French, natural philosophy, and English studies attracted the greater number of students. In this connection, however, we should keep in mind the relative position of subjects with regard to the year in which they were studied, and, in such cases as Latin and French, the fact that more than one year was spent on them.

E. Position of Subjects in the Curriculum

The following table indicates the position which the various subjects occupied in the curriculum. The figures here given are compiled from the reports of a selected group of forty-two towns. The reports chosen are those which cover the period as near as possible to 1860. Of these towns twenty offered a three years, seventeen a four years course, one a five years course,[10] one an eight class course, which probably was equivalent to four years, and three offered a three years English course and a four years classical course.

TABLE XXXIII

YEARS IN WHICH SUBJECTS WERE OFFERED

Subject	Towns considered	1st year	2d year	3d year	4th year	5th year
Arithmetic	32	30	1	0	2	0
Algebra	42	29	24	7	1	0
Geometry	41	2	30	21	3	0
Trigonometry	19	0	2	16	3	0
Surveying	28	0	3	17	9	0
Latin	40	31	40	40	20	1
Greek	34	5	27	34	16	1

[10] Nantucket, 1855, page 17. Course but not adopted.

TABLE XXXIII—*Continued*

YEARS IN WHICH SUBJECTS WERE OFFERED

Subject	Towns considered	1st year	2d year	3d year	4th year	5th year
French	34	12	28	31	15	1
Natural Philosophy	41	14	27	9	2	0
Chemistry	34	0	13	21	6	0
Astronomy	39	0	7	28	6	0
Botany	30	2	6	15	12	0
Geology	22	0	2	12	8	0
Zoology	8	1	3	3	2	0
Natural History	12	3	3	4	2	0
Physiology	31	14	9	10	3	0
Physical Geography	27	12	6	7	4	0
History, United States	21	10	5	4	4	0
General	31	14	15	8	3	0
Ancient	15	6	3	4	3	0
Mental Philosophy	31	0	3	15	16	1
Moral Philosophy	24	0	3	14	7	0
Bookkeeping	29	9	13	9	3	0
Rhetoric	29	4	12	10	7	1
Logic	13	0	1	4	7	1
Political Economy	13	0	1	6	5	1
Geography	19	16	3	1	1	0
English Grammar	39	39	22	13	6	0
English Literature	18	6	10	16	10	0

It may be seen from the above figures that, while there is considerable fluctuation, the various subjects tend to group themselves in certain years. A composite of these figures will enable us to reconstruct a general program which will in some degree represent conditions for the period about 1860.

First Year

Review of grammar school studies — arithmetic, geography, grammar, writing, etc. Regularly algebra and Latin. Sometimes French, natural philosophy, physiology, physical geography, history.

Second Year

Regularly algebra, geometry, Latin, Greek, natural philosophy, English grammar. Commonly chemistry, English literature, history, bookkeeping, rhetoric.

Third Year

Regularly Latin, Greek, French, chemistry, astronomy. The following, when they occurred at all, were commonly found in the third year except that in four year courses some were carried over to the last year: trigonometry, surveying, botany, geology, physiology, mental philosophy, moral philosophy, logic.

Fourth Year

Regularly Latin, Greek, French. Frequently botany, mental philosophy, surveying.

Declamation, composition, penmanship, etc., were commonly taught during the entire course in some form or other.

F. Gradation in the High Schools

The gradation of the studies of the secondary school in Massachusetts into a course schedule was to be found in the Latin grammer school previous to the beginning of the high school movement. E. g., The Boston Public Latin School in 1773 had a course of study which was divided into seven classes.[11] Previous to the headmastership of Gould (1814-1828) the course was one of four years and some time during his regime a five-class course was instituted. Likewise the English Classical (High) School of Boston at its beginning in 1821 was graded into three classes and the High School for Girls of the same city had a course of three classes during its brief existence.

Such a development was to be expected in the large cities where the enrollment made this possible and desirable. In the smaller towns grading was not so easy or altogether desirable. Nevertheless the character of the work of the high school demanding as it did the teaching of several subjects more or less sequential, as language study and mathematics, soon caused the practice of grading to become the common thing, and, in fact almost a characteristic of high schools. Thus by 1850 it became common to find the high school course divided into three or four classes covering a period of three or four years. "As to the length of the High School, and other arrangements, they are usually divided into three classes and extending to three years, one year embracing a class."[12] "There are two modes in which a High School may be organized and conducted. One is, that of an exact and prescribed course of study, limited to a term of three, four, or five years, (generally three) with annual admission, and a corresponding course of study for each year. The other is *no* prescribed course of study; but in its place an authorized list of studies, left to the option of the pupil with entire freedom of admission or absence each term. The former is now adopted by every other important High School in Massachusetts

[11] Jenks, Henry F., Boston Public Latin School, page 36.
[12] Manchester report for 1849, Ms.

including that of Lawrence. Lowell is left almost in the exclusive advocacy of the latter."[13] "In most High Schools the course is protracted to three years; in some to four years."[14] "The time seems to have arrived, when a course of studies should be prescribed for the several terms, extending through two or three years for its completion. This method is now pursued in all the schools of this grade, of which we possess any adequate information . . . ."[15]

The tendency toward the close of the period under consideration in this discussion was for the high school to offer a course of four years instead of the three year course which developed up to about 1850. This is clearly shown in the following table which indicates the towns introducing a three year course or longer previous to 1861. The figures merely indicate the earliest date found where the statement is made in the report or where the actual course of studies is given.

TABLE XXXIV

First Mention of Graded Course in Reports, Etc.

Town	High School Established	3 years	4 years	5 years
Amherst	1861 (1852)	1861-2, 12		
Bedford	1852	1858, 35 (?)		
Beverly	1859	1859, 5		
Boston—				
Latin Grammar School	1635		1814	1814-1852
English High School	1821	1821		
Girls' High School	1826	1826		
Brighton	1841	1847-8, 8		
Brookline	1843	1850, 11	1856-7, 16	
Cambridge—				
English Department	1849 (1838)	1849	1854, 17	
Classical Department	1849		1849, 1857	1854, 17
Charlestown	1848	1851, 11	1855, 14	
Chelsea	1846	1848, 17	1855-6, 10	
Chicopee	1849		1854, 18	
Clinton	1863 (1850)	1857, 8 (?)		
Concord	1851	1851-2, 3		
Danvers	1850	1855, 5		
Dedham	1851	1854, 13	1861, 14	
Dorchester	1852			
Edgartown	1854		1856-7, 1	
Fairhaven	1852		1857, 3	
Fall River	1849			
Fitchburg	1849	1856, 11		
Framingham	1851		1859-60, 17 (?)	
Gloucester	1839		1857, 11	

[13] Lowell report for 1851, page 52.
[14] Stoneham report for 1855-6, page 13.
[15] Wayland report for 1854-5, page 1.

TABLE XXXIV—*Continued*

FIRST MENTION OF GRADED COURSE IN REPORTS, ETC.

Town	High School Established	3 years	4 years	5 years
Greenfield	1854	1861, 5		
Haverhill	1841			
Holliston	1856	1856-7, 13		
Ipswich	1636 (?)	1855, Ms.		
Lawrence—				
English Department	1849	1857, 69		
Classical Department	1849		1857, 69	
Lee	1851		1854-5, 15	
Lexington	1854	1860-1, 7		
Lowell—				
English Department	1831	1832, 8		
Classical Department	1831	1852, 8 1859, 36	1832, 8	
Lynn	1849	1853, 11		
Malden	1857		1857-8, 14	
Manchester	1848	1855, Ms.	1858-9, 11	
Marblehead	1851 (1847)	1853, 21		
Medford	1835		1842-3, Ms. (?)	
Milford	1850		1860-1, 30	
Nantucket	1838 (?)	1857, 9	1853-4, 4	1855, 17
Natick	1852	1856-7		
New Bedford	1837 (1827)	1839, Ms.	1851, 24	
Newburyport—				
Boys' Classical	1864		1855, 7	
Boys' High	1850		1855, 7	
Female High	1843	1844-5, 9	1850-1, 6	
Newton	1853 (1859)		1860-1, 46	
Northampton—				
Boys'	1835	Cf. 1846-7, pp. 3 ff.		
Girls'	1837			
Plymouth	1849		1857, 52	
Pittsfield	1850	1852-3, 12 ff.		
Randolph	1859	1860, 56		
Roxbury—				
Latin Grammar School	1645			
English High, Boys	1852	1854, 9		
English High, Girls	1854	1857, 19		
Salem—				
Latin Grammar School	1637		1854, 7	
English High, Boys	1827	1830, 4		
English High, Girls	1845	1854, 14		
Somerville	1852	1853		
South Danvers	1855	(Split off from Danvers, which see.)		
South Reading	1845	1859-60, 14		
Springfield	1849	1856, 38		
Stoneham	1854 (1847)	1859-60, 5	1856-7, 10	
Taunton	1849		1866-7, 11	
Waltham	1849	1856-7, 7		
Watertown	1853	1853-4, 4	1855-6, 9	
Wayland	1854	1854-5, 3		
Westfield	1855	Regular course of study 1856-7, 24.		
Winchester	1850	1850-1, 15	1859, app.	
Woburn	1852	1854-5, 64	1855-6, 19	
Worcester—				
English Department	1828-9	1845, 14		
Classical Department	?	1858, 30	1845, 14 1861, 35	

G. Separate Courses

In some towns we find the high school work split up into separate courses. Inasmuch as this separation sometimes involved a differentiation in subject matter and arrangement in the curriculum it merits a few words of comment. In the differentiation of the curriculum we find the following forms:

(1) In some towns separate schools were maintained for the teaching of an English or general course and the classical course designed to fit boys for college. Such was the case at some period in each of the following towns: Boston, Cambridge, Gloucester, Ipswich, Newburyport, Roxbury, Salem, Worcester. In most of these towns reorganization and union had taken place by about 1850.

(2) Separate departments, specifically so termed, were to be found in the following towns at varying periods: Brighton, Charlestown, Chelsea, Dedham, Cambridge, Gloucester, Ipswich, Lawrence, Lowell, Lynn, Malden, Marblehead, Milford, Newburyport, Newton, Plymouth, Salem, Springfield, Stoneham, West Roxbury, Winchester, Woburn, Worcester.

(3) Separate schools for boys and girls were to be found in the following towns: Boston, Gloucester, Manchester, Marblehead, Newburyport, Northampton, Plymouth, Roxbury, Salem, Springfield, Worcester. Nearly all of these had united before the close of the period here considered.

(4) Male and female departments were to be found in several towns: e. g., Brighton, Gloucester, Haverhill, Lowell, Newburyport, Northampton, Salem, etc.

That these separate schools and departments should have existed is not to be wondered at. Previous to 1821 the secondary education in public schools was almost exclusively classical and confined to the education of boys. When the new type of education originated it was first designed for a different group of students, those not preparing for college. The older type of school was already firmly established and in many cases any attempt to graft the new system of higher education on the older in the same schools would possibly have meant the subordination of the newer type in an even greater degree than was the case. The newer schools were first established in the larger cities where opportunity was offered for the maintenance of separate schools. Thus in

Boston easy opportunity was offered for the separate establishment of the English Classical (High) School.

The higher education of girls was also a new venture for public schools. Hence we find that in the earlier period separate schools or at least separate departments were established for girls. The first of this type was the High School for Girls in Boston, which however, was soon suspended after two years of trial not to be re-established for some twenty-four years. In the meantime several towns had established high schools for girls as indicated in the above data.

An examination of the data given in the reports clearly shows that the consolidation of the various separate schools was well under way by the close of the period under consideration in this book. Nevertheless the tendency thus early established continued to have its effect on the curriculum, an effect which has not entirely disappeared up to the present time.

An examination of the curricula of the various towns of Massachusetts shows in some cases that this differentiation in the curricula is not one of form only. The classical course tended to be longer than the English course, and the course for boys was frequently longer than that for girls.

The classical course, whether given in a separate school, or in a separate department, because of its nature and its previous organization in the Latin grammar school, and because of its purpose as preparatory for college, early assumed and constantly maintained a comparatively stable form. In general it extended over a period of four years and where the general or English course covers a period of three years only, a fourth year or more was frequently assigned for the classical course, e. g., Boston, Cambridge (1851, p. 19), Dedham (1861, p. 14), Lowell (1852, p. 8 ff), Lawrence (1858, p. 73 ff.) Even where the English course covered a period of four years an additional year was sometimes devoted to the classical course, e. g., Cambridge (1854, p. 17).

The program of the classical course was, of course, adapted to meet the entrance requirements of the New England colleges, especially Harvard University. The connection between the high schools and the colleges has been discussed in Chapter IV, pages 65-70. Likewise the discussion of the special subjects of the curriculum, will be deferred to Chapter VI. The following

program of the classical course of Woburn (1859-59, p. 24), will give a general idea of the classical course of the Massachusetts high school. All of the essential elements are included here, and some unnecessary studies are admitted. Of course the amount of extra studies varied in the various towns.

CLASSICAL DEPARTMENT

First Year

1st Term: Latin Grammar and Lessons, Algebra, Physiology, Reading, Themes, Miscellaneous Exercises.

2d Term: Latin Grammar and Lessons, Algebra, Physiology, Reading, Themes, Miscellaneous Exercises.

3d Term: Latin Grammar and Lessons, Algebra, Physical Geography, Reading, Themes, Miscellaneous Exercises.

Second Year

1st Term: Caesar, Latin Exercises, Algebra, Reading, Themes, Miscellaneous Exercises.

2d Term: Caesar, Latin Exercises, Bookkeeping, Themes, Miscellaneous Exercises.

3d Term: Caesar, Latin Exercises, Geometry, Reading, Themes, Miscellaneous Exercises.

Third Year

1st Term: Virgil, Greek Lessons, Greek Grammar, Geometry, Miscellaneous Exercises.

2d Term: Virgil, Greek Lessons, Greek Grammar, Geometry, Miscellaneous Exercises.

3d Term: Xenophon's Anabasis, Greek Grammar, Geometry, Miscellaneous Exercises.

Fourth Year

1st Term: Cicero, Greek Exercises, Xenophon's Anabasis, Miscellaneous Exercises.

2d Term: Cicero, Greek Exercises, Homer's Iliad, Miscellaneous Exercises.

3d Term: Ancient History, Ancient Geography, Miscellaneous. Review.

That the classical course was more extensive in some towns and less so in others than the above program would indicate goes without saying, but all of the essential elements are here shown.

The English or general course of study together with the various elements which entered into it have been outlined in general in the data presented on pages 81-96, and by implication in dealing with the classical course. No very specific data can be given in

dealing with a matter which involves so many elements. However a few points deserve comment:

(1) The presence of Latin in the English course of study: In the cases where separate departments are specifically outlined in the reports, etc., it is the rule rather than the exception to find Latin in the English course of study. In Boston Latin was not introduced into the curriculum of the English High School until 1876, but in many schools Latin formed a part of the course of study in the English department. For instance, see the reports of Cambridge (1849), Charlestown (1855, p. 14), Chelsea (1855, p. 28). Doubtless the practice of including Latin in the English course of study was due as much as anything to the prestige of a study which for centuries had been the back-bone of secondary education.

(2) While the classical course was comparatively fixed and uniform, the English course was more or less elastic, commonly offering opportunity for some election in the matter of subjects. This found occasion in two opposite directions, in the smaller and poorly graded systems because of the lack of fixed and uniform courses, and in the larger and better graded systems because of the possibility offered by a greater number of subjects and teachers, which rendered division possible.

CHAPTER VI

THE CURRICULUM — SPECIAL SUBJECTS

To gain a proper idea of the work of the high schools of Massachusetts during the period of its early development it is necessary to know something of the amount and character of the various subjects which were to be found in the curriculum. The curriculum in general has been considered in Chapter V. The present chapter will take up the various subjects which were to be found in that curriculum and attempt to analyze somewhat the work done in the individual subjects. The easiest way to estimate the character and extent of the work done in the several subjects is to examine some of the text-books employed. Hence a list of the books which were specifically mentioned in the reports is appended to the discussion of each subject. Doubtless other books which are not mentioned by name in the reports were used but the lists are sufficiently large to indicate clearly the scope and character of the teaching in the various subjects. Such subjects as arithmetic, geography (except physical geography), etc., which were properly studies belonging to the elementary schools but which were commonly continued or reviewed in the early years of the high school course, are not considered in the following discussion. The extent to which they found a place in the high school program may be seen from the data presented in Tables XX-XXI.[1]

1. Latin

The history of the teaching of Latin and Greek in the secondary schools of Massachusetts carries us back to the beginning of that branch of instruction in the state. The earliest law affecting secondary education in Massachusetts established the Latin grammar school whose curriculum was a purely classical one. From the time of the founding of the Boston Public Latin School in

[1] Cf. pp. 82-84.

1635 throughout the colonial period little was taught in the secondary schools of the state except the Latin and Greek languages.[2] During the first quarter of the nineteenth century some mathematics was introduced into the curriculum of the Boston Public Latin School [3] but the first step toward the breaking down of the complete domination of the classics in the public secondary schools of the state was the establishment of the English Classical (High) School of Boston in 1821.[4] The second important step was the provision made by the statute of 1827 for the establishment of the new non-classical type of public secondary school.[5] By that same law, however, provision was still made for classical studies in the high schools of towns containing four thousand inhabitants or over.

The legal status of Latin in the high school curriculum has been outlined in Table XVII.[6] It may be summarized here for reference:

1647-1789	required	in	all	towns	of	100 families or over.
1787-1827	"	"	"	200	"	"
1827-1857	"	"	"	4000	inhabitants	or over.
1857 ——	"	"	"	500	families	or over.

Notwithstanding the law of 1827, so great was the prestige of Latin as a subject for high school study, that, even when relieved of the legal obligation, many towns not required by law to do so continued to offer the subject in the high school or even in the lower school curriculum.[7] The reasons for this are not far to be sought: 1. The prestige of the subject as intimated above; 2. The college admission requirements;[8] 3. Scholastic inertia; 4. The machinery of school usage, the preparation of the available teachers, the existence of a well established method, presence of workable text-books —all these were factors which tended to conserve the subject as one of the chief studies for higher schools.

If we can place any reliance on the returns given in the Abstract

[2] Cf. p. 5.
[3] Cf. p. 6.
[4] Cf. pp. 15-18.
[5] Cf. pp. 27-30.
[6] Cf. p. 72.
[7] Cf. p. 75.
[8] Cf. pp. 65 ff

of Massachusetts School Returns compiled in Table XVIII,[9] we may find corroborative evidence of the disappearance of the Latin grammar school suggested on pages 4-5 of this discussion. According to those returns in 1834 but three towns in the state claimed to offer Latin in their schools. In 1839-40 the number had risen to twenty-one; in 1840-41 there were but sixteen towns claiming to offer Latin in their schools. At the last date there were about eighteen high schools in the state.[10]

With the increase of the number of high schools in the state the study of Latin was again restored to its former position of prominence in secondary education, though it had been forced to share its prestige with other subjects. In 1860-61 all of the towns considered in the group in Table XX [11] contained Latin as one of the subjects taught in their high schools and there can be little doubt that the subject was to be found in the curriculum of every high school in the state. The data given in Tables XXVII-XXXII [12] showing the number of students pursuing the study of Latin in the high schools of various towns indicate clearly that Latin was one of the most extensively pursued subjects in the high school curriculum at all periods. Probably no single subject could be considered as competing with it as a purely high school subject.

In 1842 according to the figures compiled by Horace Mann 858 pupils were engaged in the study of the Latin language.[13] This number was exceeded by history, algebra, and bookkeeping, but these subjects were frequently taught in the elementary schools at that time.[14]

The study of Latin was commonly begun in the first, or at the latest, in the second year of the high school course, and was pursued throughout the remainder of that course. The first year was, of course, devoted to some beginning book of the type mentioned below. The course commonly ended either with Cicero's Orations or with Vergil's Aeneid. During the intervening years Caesar's Commentaries were commonly read, but sometimes Viri Romae, Nepos, or Sallust replaced Caesar or were read in addition to it. On this see the following pages.

[9] Cf. p. 75.
[10] Cf. p. 75.
[11] Cf. pp. 82-83.
[12] Cf. pp. 88-93.
[13] Cf. p. 87.
[14] Cf. p. 75.

Latin Authors Read

Caesar: The Commentaries; almost universally read, position commonly in the second year of the course. Frequently Viri Romae or Nepos replaced it. Cf. these below. Rarely Caesar was taught toward the end of the course: e. g., Newburyport (1859, p. 19), (1860, p. 12), Salem (1859, p. 40). The entire De Bello Gallico was read in Gloucester (1860, p. 12).

Cicero: Orations; the Orations against Catiline were commonly read. Less frequent mention is made of the Oration for Archias (Plymouth, 1860, page 13), and of the Oration on the Manilian Law (Beverly 1860, page 7). The position of Cicero in the curriculum was either the last year or the next to the last. On this see below. De Officiis: Mentioned only for Boston (1826, p. 7). De Amicitia: Mentioned only for Boston (1826, p. 7) and Northampton (1860-1, p. 20). De Senectute: Mentioned only for Boston (1826, p. 7) and Northampton (1860-1, p. 20).

Vergil: Aeneid: Commonly read. Position regularly in the last or next to the last year, where it disputed with Cicero for position. On this see Cicero and below. Where amount is indicated it is commonly the first six books. Eclogues: Mentioned only for Cambridge (1853, B. p. 39), Northampton (1860-61, p. 20), Newton (1860-1, p. 47), Charlestown (Catalogue of Teachers and Pupils, 1855, p. 14), Plymouth (1860, p. 13). Bucolics: Same as for the Eclogues. Cf. above.

Ovid: Metamorphoses: Mentioned only for Boston (1826, p. 7), Cambridge (Regulations 1851, p. 19), Newburyport (1859, p. 19), Salem (1847, p. 28), Worcester (1845, p. 14).

Nepos: Mentioned only for Boston (1826, p. 7), Fairhaven (1854-5, p. 7), Cambridge (Bradbury, for 1849, p. 31), Greenfield (1861, p. 5), Roxbury (1858, chap. V), Salem (1845-6, p. 26), Milford (1856, p. 14), Taunton (1860-1, p. 44), Winchendon (1857-8, p. 22), Winchester (1850-1, p. 15), Worcester (1856, p. 20).

Sallust: Mentioned only for Boston (1826, p. 7), Lowell (1847, p. 25), Chelsea (1848, p. 17), Lowell (1832, p. 7), Holliston (1856-6, p. 13), Ipswich (1845-6, p. 5), Milford (1856, p. 14), Newburyport (1855, p. 13), Northampton (1860-1, p. 20), Plymouth (1857, p. 52), Rockport (1856-7, p. 13), Springfield (1856, p. 38), Stoneham (1856-7, p. 11), Watertown (1853-4, p. 4), Winchendon (1857-8, p. 22), Winchester (1859, App.), Woburn (1855-6, p. 20), Worcester (1845, 14).

Viri Romae: Mentioned only for Boston (1826, p. 7), Chelsea (1848, p. 17), Lowell (1840-1, p. 63), Milford (1856, p. 14), Pittsfield (1853, p. 12), Plymouth (1857, p. 52), Salem (1854, p. 13),

Stoneham (1856-7, p. 11), Taunton (1860-1, p. 44), Waltham (1856-7, p. 8), Watertown (1853-4, p. 4), Winchendon (1857-8, p. 22), Winchester (1859, App.), Woburn (1855-6, p. 20), Worcester (1845, p. 14).

Horace: Mentioned only for Boston (1826, p. 7), Plymouth (1857, p. 52 ff), Wayland (1860-61, p. 2).

Tacitus: Germania: Mentioned only for Boston (1826, p. 7), and Randolph (1861, p. 14). Agricola: Mentioned only for Boston (1826, p. 7).

Juvenal: Mentioned only for Boston (1826, p. 7), Lowell (1832, p. 13).

Persius: Mentioned only for Boston (1826, p. 7).

Phaedrus: Fabulae: Mentioned only for Boston (1826, p. 7).

Of twenty towns considered whose reports give sufficient data to justify a judgment, eleven offer Vergil in the curriculum before Cicero and nine Cicero before Vergil. In cases where there existed a complete course in Latin Cicero was sometimes omitted. Such was rarely the case with Vergil.

Some of the texts employed in the teaching of Latin were:

Grammars: Adams, Alexander (editions by Wells, Johnson, Russell, Gould); Andrews, Ethan A. and Stoddard, Solomon; Jacob, Christian F. W.

Beginners' Books, etc.: Andrews, Ethan A., First Lessons in Latin, Latin Exercises, Latin Reader, Lessons in Latin; Arnold, Thomas K., First and Second Latin Books; Dana, Joseph, Liber Primus, Latin Tutor; Goodrich, Chauncey A., Latin Elements, Lessons in Latin Parsing; Harkness, Albert, First and Second Latin Books (Arnold); Jacob, Christian F. W., Latin Reader (ed. Bancroft, Geo.), Liber Primus; Leverett, Frederic P., The New Latin Tutor; McClintock, J. and Crook, First and Second Books in Latin; Richard, —, First Book in Latin; Weld, Allen H., Latin Lessons and Reader.

Caesar: Andrews, Ethan A.; Anthon, Charles; Schmitz, Leonhard; Schmitz, L. and Zumpt, C. G.

Cicero: Anthon, Charles; Bullion, Peter; Folsom, Charles; Johnson,—; Schmidt, Ebehard K. K.

Vergil: Andrews, Ethan A.; Anthon, Charles; Bowen, Abel; Cooper, J. G.; Frieze, Henry S.; Gould, B. A.; Moore, Edward; Russell,—; Schmidt, Ebehard K. K.

Sallust: Andrews, Ethan A.; Anthon, Charles; Schmidt, Ebehard K. K.; Wilson.

Ovid: Andrews, Ethan A.; Gould, B. A.; Willymote, William.

Viri Romae: Andrews, Ethan A.; Leverett, Frederic P.
Horace: Gould, B. A.
Nepos: Arnold, Thomas K.
Phaedrus: Burman, Pieter.
Dictionaries: Ainsworth, Robert; Andrews, Ethan A.; Anthon, Charles; Arnold, Thomas K.; Leverett, Frederic P. (and edition by Gardner).
Other Works: Andrews, Ethan A., "Antibarbarus"; Arnold, Thomas K., "Antibarbarus"; Arnold, Thomas K., "Latin Prose Composition"; Arnold, Thomas K., "First Verse Book"; Doderlein, Ludwig, "Latin Synonyms"; Hanson, J. H., "Latin in Prose"; Hanson and Rolfe, "Latin Poetry"; Krebs, John P., "Guide for Writing Latin"; Ramshorn, Johann G. L., "Dictionary of Latin Synonyms"; Valpy, E., "Latinae Elegantiae."

2. Greek

The history of the study of Greek as a secondary school subject in Massachusetts is essentially the same as that of Latin except that the latter was of far greater extent and prevalence. Occupying a position parallel with Latin in the colonial Latin grammar school, Greek furnished a large part of the secondary school material of study until the beginning of the nineteenth century and even up to the passage of the law of 1827. By that law the study of Greek was provided for in the high schools of all towns containing four thousand inhabitants or over and that continued to be the legal status of Greek throughout the period under consideration in this discussion.[15]

Here again we find the same forces at work to encourage the study of Greek that we found in the case of Latin: the prestige of the subject, the college requirements, the existence of good text-books, the presence of well trained teachers, and a body of well developed method. All these elements conspired to continue the study of Greek, but the new type of education introducing a new aim in secondary education tended strongly to lessen the influence of the college with its entrance requirements for a classical education. French gradually replaced Greek as a second language in the high schools and the new element which had been provided for by the new law and demanded by the new aim in secondary education hastened the downfall of Greek. In addition the new education provided for the higher education of girls and it was rarely that the latter pursued the study of Greek.

[15] Cf. p. 72.

The requirement for the teaching of Greek in the high schools of towns containing four thousand inhabitants or over was not well met during the early high school period. In many towns the study of Greek was maintained only by fits and starts as students preparing for college presented themselves. In 1834 but two towns in the state claimed to offer the subject in their schools; by 1839-40 the number had increased to twelve but by 1840-41 it had again fallen to five.[16] By 1860-61 fifty-five out of the selected group of sixty-three towns had included Greek in the curricula of their high school[17] and of the forty high schools in this list required by law to offer Greek thirty-nine had complied with the law.[18]

According to the figures of Horace Mann for 1842 one hundred eighty-three pupils in the state were engaged in the study of Greek.[19] Some further indication of the number of high school students pursuing the subject in several towns at various periods is given in Tables XXVII-XXXII.[20] From these figures, inexact and incomplete as they are, it is evident that a very small percentage of the students of the high schools were engaged in the study of the subject. In Springfield for the period of years 1855-1861 the gross average for all students is three per cent.[21] In Lowell for the years 1849-51 the average was five per cent for boys and less than 2.1 per cent for all.[22]

Greek was commonly begun in the year after Latin was begun or at least in a later term.[23] The ground covered was usually the following in order: the beginner's book and reader; Xenophon's Anabasis; Homer's Iliad. In a number of cases some part of the Greek Testament was included in the course.

Greek Authors Read

Xenophon: Anabasis; regularly read. It was commonly the first book taken up after the beginner's book or reader. Usually but three or four books were read. Cyropedia; mentioned only for Cambridge (1853), Northampton (1860-1, p. 20), Salem (1859, p. 40). Hellenica; mentioned only for Cambridge (1853).

[16] Cf. p. 75.
[17] Cf. p. 82.
[18] Cf. p. 86.
[19] Cf. p. 87.
[20] Cf. pp. 88-93.
[21] Cf. p. 93.
[22] Cf. p. 91.
[23] Cf. p. 94.

Homer: Iliad; commonly read in the last part of the Greek course. Usually but three books were read. Odyssey; mentioned only for Greenfield (1861, p. 5).

New Testament: Mentioned for several towns: e. g. Boston (1826, p. 7), Ipswich (1855), Lowell (1832, p. 13), Marblehead 1859, pp. 22 ff.), Milford (1856, pp. 14 ff.), Nantucket (1840-1, Mass. Abstract, p. 288), Northampton (1860-1, p. 20), Plymouth (1857, p. 54), Rockport (1856-7, p. 13), Winchendon (1856, p. 17), Winchester (1850-1, p. 15).

Thucydides, Herodotus, Lysias: Mentioned only for Cambridge (1853).

Some of the text-books employed in teaching Greek were:

Grammars: Crosby, Alpheus; Fisk, Benj. F.; Goodrich, Chauncey A.; Hadley, James; Juler, — ; Kuhner, Raphael; Popkin, — , Gloucester Greek Grammar; Sophocles, Evangelinus A.

Beginner's Books and Readers: Andrews, Ethan A., Greek Exercises; Anthon, Charles, Greek Reader; Arnold, Thomas K., First Greek Book; Bullion, Peter, First Greek Book, Greek Lessons for Beginners; Colton, John O., Greek Reader; Crosby, Alpheus, Greek Lessons; Felton, Cornelius C., Greek Reader; Dalzel, Andrew, and Dunbar, Collectanea Graeca Maiora, Graeca Minora; Jacob, Frederic, The Greek Reader; Kendrick, A. C., Primary Greek Book, Greek Introduction, Ollendorf's First Lessons in Greek; McClintock and Crook, First and Second Books in Greek; Neilson, William, Greek Exercises; Sophocles, Evangelinus A., Greek Lessons, Greek Exercises.

Anabasis: Boise, James R.; Crosby, Alpheus; Owen, John J.

Iliad: Felton, Cornelius C.; Mattair.

Testament: Owen, John J., Acts of the Apostles; Spencer, J. A., New Testament in Greek, Four Gospels and Acts of the Apostles in Greek.

Dictionaries: Donnegan, James; Henericus, Benj.; Liddell, Henry G. and Scott, Robert; Passow, Franz L. K. F.; Pickering, John; Scapula, Johann.

Other Texts: Arnold, Thomas K., Greek Prose Composition; Valpy, F., Greek Delectus.

3. Algebra

The study of mathematics had no place in the curriculum of the colonial Latin grammar school in Massachusetts. As late as 1789 no mathematics was contained in the curriculum of the Boston Public Latin School.[24] Students of the school were, however, permitted to attend an English public or private school twice a week,

[24] Cf. p. 2.

half a day, where some arithmetic was taught.[25] A somewhat later program of that institution likewise contained no mathematics [26] but some time between 1814 and 1828, during the headmastership of Gould, the subjects of arithmetic, geometry, trigonometry, and algebra were introduced into the course of study.[27] Meantime mathematics had been taken up by the academy. In the constitution of the Phillips Andover Academy arithmetic and geometry were mentioned as subject to be taught in that institution.[28] In the curriculum of the Pittsfield Academy for 1822 algebra, geometry, trigonometry, surveying, and navigation were included,[29] and in 1824 the Leicester Academy provision was made for the teaching of arithmetic, algebra, geometry, and surveying.[30] In the first program of the English Classical (High) School of Boston for 1821 were included algebra, geometry, arithmetic, trigonometry " with its applications to the Mensuration of Heights and Distances, Navigation, Surveying, Mensuration of Surfaces and Solids." [31] In the program of that institution for 1823-24 were included intellectual and written arithmetic, algebra " by dictation," geometry, " Practical Mathematics, comprehending Navigation, Surveying, Mensuration, Astronomical Calculations, etc., together with the construction and use of Mathematical Instruments." [32]

By the law of 1827 algebra was required to be taught in the high schools of all towns of five hundred families or over.[33] By the law of 1857 it was made obligatory in the elementary schools [33] and by the law of 1858 it was withdrawn from the list of required studies and left to the option of the school committees.[34] Beginning with 1820 algebra became one of the studies required for entrance to Harvard University.[35] The requirement in Williams and Amherst came later.

By 1834 but three towns in the state claimed to offer algebra in their schools. In 1837 the number had leaped to eighty-four, and

[25] Jenks, H. F., Boston Public Latin School, p. 43.
[26] Cf. p. 5.
[27] Jenks, as above, p. 63.
[28] Cf. p. 12.
[29] Cf. p. 13.
[30] Cf. p. 12.
[31] Cf. p. 17.
[32] Cf. p. 17.
[33] Cf. p. 72.
[34] Acts and Resolves for 1858, Chap. 5, Sect. 2.
[35] Broome, E. C., College Admission Requirements, p. 43.

by 1840-41 one hundred four towns claimed to offer the subject.[36] Inasmuch as there were not more than eighteen high schools in the state at that time[37] it is clear that the study had been generally taken up by the elementary schools. In 1860-61 probably every high school in the state offered algebra in its course of study. Of the towns in the selected list of sixty-three considered in Table XX,[38] all contained the subject in the curricula of their high schools.

According to the figures of Horace Mann, in 1842 some 2333 pupils in the state were engaged in the study of algebra—more than the number engaged in any other subject except history.[39] The number of students pursuing the subject at various dates in several towns is indicated in Tables XXVII-XXXII.[40] From the figures given there, incomplete as they must necessarily be, it is evident that algebra had become one of the leading subjects in the high school curriculum, probably unexcelled in the number of students pursuing it by any other subject except Latin.

Algebra was regularly taught (after the course became settled) in the first and second years of the course, usually giving way during the second year to geometry.[41] The scope of the subject can best be seen from the text-books employed. A list of these follows:

Bailey, Ebenezer, "First Lessons in Algebra"; Bland, R., "Algebraical Problems"; Bourdon, Pierre, L. M., "Elements of Algebra"; Colburn, Warren, "An Introduction to Algebra"; Davies, Charles, "Elementary Algebra," "Elements of Algebra," "First Lessons in Algebra"; Day, Jeremiah, "An Introduction to Algebra," "Elements of Algebra"; Euler, Leonhard, "Elements of Algebra," "Introduction to the Elements of Algebra"; Greenleaf, Benj., "A Practical Treatise on Algebra"; Grund, Francis J., "Algebra"; Lacroix, Sylvestre F., "Elements of Algebra"; Pierce, Benj., "An Elementary Treatise on Algebra"; Perkins, George R., "The Elements of Algebra," "Treatise on Algebra"; Robinson, Horatio N., "An Elementary Treatise on Algebra," "New Elementary

[36] Cf. p. 75.
[37] Cf. p. 46.
[38] Cf. p. 82.
[39] Cf. p. 87.
[40] Cf. pp. 88-93.
[41] Cf. p. 94.

Algebra"; Sherman, Thomas, "The Common School Algebra," "An Elementary Treatise on Algebra"; Smith, Roswell C., "Elements of Algebra"; Smyth, William, "Elements of Algebra," "Treatise on Algebra," "Elementary Algebra"; Thompson, James B., "Elements of Algebra," "An Elementary Treatise on Algebra"; Totten, Silas, "A New Introduction to the Science of Algebra"; Tower, David B., "Intellectual Algebra."

4. Geometry

The status of geometry previous to the law of 1827 has been outlined on pages 110-111. From the data there presented it can be seen that previous to the nineteenth century geometry had no place among the studies of the Latin grammar school, but that it had appeared in the academy. During the first quarter of the nineteenth century the subject was introduced into the curricula of the Boston Public Latin School and the Boston English Classical (High) School.

By the law of 1827 the teaching of geometry was made obligatory in the high schools of all towns containing five hundred families or over and such was its legal status during the period under consideration in this discussion.[42] It was first required for entrance to Harvard College in 1844,[43] and for admission to Amherst College in 1859-60.[44]

In 1834 but two towns in the state claimed to offer geometry in their schools. By 1837 the number had become forty-five but in the next year it had fallen to twenty-two, and in 1840-41 but eighteen towns claimed to offer the subject in their schools.[45] By 1860-61 geometry had been included in the curricula of the high schools of sixty-one towns out of the selected group of sixty-three towns.[46] It will thus be seen that the subject had become one of the regular studies of the Massachusetts high school by that time.

The figures of Horace Mann show that in 1842 four hundred and sixty-three pupils in the state were engaged in the study of

[42] Cf. p. 72.
[43] Broome, E. C., College Admission Requirements, p. 45.
[44] Catalogue for 1859-60.
[45] Cf. p. 75.
[46] Cf. p. 82.

geometry.[47] The figures given in Tables XXVII-XXXII[48] indicate the number of pupils pursuing the subject of geometry in several schools at various dates. As would be expected from the fact the geometry was a subject in many ways presupposing more or less knowledge of algebra, the proportion of pupils studying the former was less than that of those engaged in the study of algebra.

In the course of study geometry regularly followed algebra and was commonly found in the second year of the high school course.[49]

Text-books employed in the study of geometry were: Brun, "Elements of Geometry"; Davies, Charles, "Descriptive Geometry," "Elements of Geometry," "Legendre's Geometry"; Grund, Francis J., "Elementary Treatise on Geometry," "First Lessons in Plane Geometry"; Allen, J., "Elements of Geometry" (Euclid); Hill, Thomas, "Geometry"; Holbrook, Josiah, "Easy Lessons in Geometry"; Legendre, Adrien M., "Elements of Geometry" (ed. Farrar, J.), Same (ed. Davies, Charles), "Geometry" (ed. Brewster); Loomis, Elias, "Elements of Geometry"; Olmsted, Denison, "Elements of Geometry"; Parker, Richard G., "Geometry"; Pierce, James M., "Geometry"; Playfair, John Euclod, "Elements of Geometry"; Robinson, N. H., "Geometry"; Smyth, William, "Geometry"; Tillinghast, "Elements of Plane Geometry"; Walker, W., "Geometry."

5. Trigonometry, Surveying, Navigation, Mensuration, Analytical Geometry

The status of the higher mathematics in the schools of Massachusetts previous to the law of 1827 has been outlined on pages 110-111. There it was shown that trigonometry, surveying, and navigation had appeared in the curricula of the academies by that date. Likewise it was shown that "trigonometry, and its uses" had been introduced into the curriculum of the Boston Public Latin School during the period 1814-1828, and that trigonometry, surveying, navigation, and mensuration had appeared in the first course of study of the English Classical (High) School.

By the law of 1827, surveying was made a required subject in

[47] Cf. p. 87.
[48] Cf. pp. 88-93.
[49] Cf. p. 94.

the high schools of all towns containing five hundred families and over and this requirement continued in force throughout the period considered in this discussion.[50] None of the other subjects mentioned above was ever required by law to be taught in the high schools of Massachusetts, nor was any mathematics beyond geometry ever required for admission to college within this period.

In 1834 two towns in the state claimed to offer instruction in surveying in their schools and no town claimed to offer instruction in any of the other subjects considered here. By 1840-41 fifteen towns claimed to offer surveying in their schools, five offered navigation and three trigonometry.[51] By 1860-61 forty-five towns out of the selected list of sixty-three towns[52] offered surveying in their high schools, fifteen navigation and mensuration, and thirty-seven trigonometry.

In Tables XXVII-XXXII[53] some figures are given showing the number of students engaged in the study of these subjects in several towns at various dates. It may be noted that the number of students pursuing the subjects is small if any dependence can be placed on these figures.

Where trigonometry, surveying, and navigation appeared at all in the curriculum of a high school they regularly assumed a position toward the end of the course, commonly in the third year, or, where there was a four year course, sometimes in the fourth year.[54]

Analytical geometry under that special head was mentioned in but one high school up to 1860-61. It was found in the high school of Newburyport in 1855.[55]

Text-books in use in the various subjects were:

Trigonometry: Darley, George, "Popular System of Trigonometry"; Davies, Charles, "Elementary Geometry and Trigonometry"; Day, Jeremiah, "Plane Trigonometry"; Legendre, Adrien M., "Geometry and Trigonometry" (ed. Davies, Charles); Loomis, Elias, "Elements of Plane and Spherical Trigonometry"; Pierce, Benj., "Elementary Treatise on Plane Trigonometry"; Smyth, Thomas, "Plane Trigonometry."

[50] Cf. p. 72.
[51] Cf. p. 75.
[52] Cf. p. 82.
[53] Cf. pp. 88-93.
[54] Cf. p. 94.
[55] Newburyport report for 1855, p. 13.

Surveying: Alsop, S., "Treatise on Surveying"; Dane, "Surveying"; Davies, Charles, "Surveying"; Flint, A., "Surveying"; Gibson, Robert, "Surveying"; Gummere, John, "Surveying," (Key by Alsop, S.)

Navigation: Bowditch, Nathaniel, "The American Navigator"; Davies, Charles, "Navigation."

6. Natural Philosophy

Natural philosophy apparently first found a place in the curriculum of the secondary school in Massachusetts in the academy. The constitution of the Phillips Andover Academy provided for instruction in "any other of the liberal Arts and Sciences." [56] The program of the Phillips Exeter Academy for 1818 called for "Elements of Chemistry and Natural Philosophy, with experiments," for the third and last year of the course.[57] From the beginning the Pittsfield Academy offered natural philosophy in its course of study.[58]

In the public schools the subject first made its appearance in the English Classical (High) School of Boston in 1821.[59] In the program of that school for 1823-24 natural philosophy appears as a study for the second class and in the last class was offered "A course of experimental lectures in the various branches of Natural Philosophy." [60] The High School for Girls in Boston in its first program prescribed natural philosophy for the second year of the course.[61]

No legal requirements were made for the teaching of natural philosophy in the schools of the state until 1857 when the subject was required by law to be taught in the high schools of all towns of five hundred families or over.[62] Natural philosophy was never made a requirement for entrance to college in Massachusetts within the period considered in this discussion.

Notwithstanding its recent appearance in the curriculum and the absence of legal support natural philosophy quickly assumed a prominent position as a school subject. In 1834 but twenty-four

[56] Cf. p. 12.
[57] Bell, Charles H., Phillips Exeter Academy, A Historical Sketch, p. 94.
[58] Cf. p. 13.
[59] Cf. p. 17.
[60] Cf. p. 17.
[61] Cf. p. 19.
[62] Cf. p. 72.

towns out of a total of two hundred sixty-one reporting to the state board of education claimed to offer the study in the public schools. By 1838-39 the number had increased to one hundred fifty out of two hundred ninety-eight reporting, and in 1840-41 one hundred eighty-one towns out of three hundred four claimed to offer the subject.[63] At the last date there were not more than eighteen high schools maintained in the state, so that it can be seen that natural philosophy had become a common subject of study in the elementary schools. By 1860-61 out of the selected group of sixty-three high schools natural philosophy appears in the programs of sixty.[64] By that time the subject had assumed a position as a subject especially adapted to the high school rather than the lower school, and it no longer was found to any great extent in the elementary schools. Tables XXVII-XXXII[65] present some data which give an idea of the relative number of students in various schools pursuing the subject, though these data are very unsatisfactory.

From Table XXXIII[66] it appears that natural philosophy commonly was offered in the second year of the high school course though not uncommonly it was offered as a first year subject. It also appears that, with the possible exception of physiology and physical geography, natural philosophy was the first branch of physical science to be presented to the student in most high schools.

Text-books used in the teaching of natural philosophy were: Abbott, Jacob, "Little Philosophy"; Agassiz (Louis) and Gould (Augustus), "Natural Philosophy"; Biot, Jean B., "Natural Philosophy"; Blair, David, "Grammar of Natural and Experimental Philosophy"; Blake, John L., "Natural Philosophy"; Comstock, John L., "Natural Philosophy"; Draper, B. H., "Textbook on Natural Philosophy," "Conversations on Natural Philosophy"; Grund, Francis J., "Elements of Natural Philosophy"; Johnston, John, "Natural Philosophy"; Parker, Richard G., "First Lessons in Natural Philosophy," "The Boston School Compendium of Natural and Experimental Philosophy"; Phelps, Mrs. Almira H. L., "Familiar Lectures on Natural Philosophy," "Natural Philosophy for Beginners"; Quackenbos, G. P., "Nat-

[63] Cf. p. 75.
[64] Cf. p. 82.
[65] Cf. pp. 88-93.
[66] Cf. p. 94.

ural Philosophy"; Smellie, William, "Philosophy of Natural Philosophy"; Smith, H. B., "Natural Philosophy"; Swift, Margaret, "First Lessons in Natural Philosophy"; Tate, Thomas, "Natural and Experimental Philosophy," "Cambridge Physics."

7. Chemistry

Chemistry, like natural philosophy, first made its appearance in the secondary school curriculum in the academy. In the Leicester Academy it was taught as early as 1813.[67] In the public schools its appearance dates from the beginning of the High School for Girls in Boston in 1826, where it was required in the third year.[68] Previous to this some slight attention was given to chemistry in Blair's "Elements of the Arts and Sciences," a text-book used in the Boston English High School in 1823-24.[69] "Agricultural Chemistry" was found in the curriculum of the high school in Ipswich in 1845.[70]

No legal provision was made for the teaching of chemistry in the public schools until 1857, when it was made obligatory in high schools in towns containing five hundred families or over.[71] The subject was never required for entrance to college in Massachusetts within the period under consideration in this discussion.

Chemistry never assumed the prominent position which natural philosophy early assumed in the public schools. In 1834 but three public schools claimed to offer the subject. By 1838-39 the number had risen to forty-three and by 1839-40 to fifty-seven, followed in 1840-41 by a drop to forty-one.[72] In should be remembered that at this time there were but eighteen high schools in the state. By 1860-61 out of the selected group of sixty-three towns fifty-two offered chemistry in their courses.[73] Tables XXVII-XXXII[74] present data for several towns regarding the proportion of students pursuing this subject.

From Table XXXIII on page 94, it appears that the position

[67] Cf. p. 12.
[68] Cf. p. 19.
[69] Cf. p. 17.
[70] Report for 1845-6, p. 5.
[71] Cf. p. 32.
[72] Cf. p. 75.
[73] Cf. p. 82.
[74] Cf. pp. 88-93.

of chemistry in the course of study was regularly in the second or third year with a slight tendency in favor of the latter.

Some of the text-books in use were: Blake, John L., "Chemistry"; Brown, William S., "Chemistry for Beginners"; Comstock, John L., "Elements of Chemistry," "Conversations on Chemistry," "Grammar of Chemistry"; Draper, John W., "Text Book on Chemistry"; Gray, Alonzo, "Elements of Chemistry," "Practical Treatise on Chemistry"; Grund, Francis J., "Elements of Chemistry"; Johnston, John, "Manual of Chemistry," "Catechism of Agricultural Chemistry"; Jones, Thomas P., "Conversations on Chemistry"; Perkins, Geo. R., "Chemistry"; Phelps, Mrs. Almira H. L., "Chemistry," "Chemistry for Beginners," "Familiar Lectures on Chemistry"; Silliman, Benj., "Elements of Chemistry"; Silliman, Benj. Jr., "First Principles of Chemistry"; Stockhardt, J. A., "Principles of Chemistry"; Turner, Edward, "Chemistry," "Elements of Chemistry"; Youman, Edward L., "Class-book of Chemistry," "Chart of Chemistry."

8. Astronomy

Astronomy first found a place in the secondary schools of Massachusetts in the academy.[75] In the public school it was first introduced into the curriculum of the English Classical (High) School in 1821 in connection with natural philosophy.[76] In the course of study of that institution for 1823-24, "Astronomical Calculations" was found in connection with "Practical Mathematics."[77] In the High School for Girls of Boston astronomy was found in the third year of the course of study for 1826.[78]

No legal requirements for the teaching of astronomy in the public schools of Massachusetts existed until 1857 when the subject was required in the high schools of towns containing four thousand inhabitants or over.[79] The subject was never required for entrance to college.

In 1834 eighteen towns claimed to offer astronomy in their schools. In 1838-39 the number had increased to forty-four, and

[75] Cf. p. 12.
[76] Cf. p. 17.
[77] Cf. p. 17.
[78] Cf. p. 19.
[79] Cf. p. 32.

in 1839-40 to fifty-eight. In 1840-41 the number claiming to offer the subject was forty-eight.[80] By 1860-61, out of the selected group of sixty-three towns, fifty-one contained astronomy in the curricula of their high schools.[81] In this respect it will be seen that at that time astronomy held about the same position as chemistry. Some data regarding the number of students pursuing the subject are presented in Tables XXVII - XXXII.[82] The position of astronomy in the course of study was regularly in the third year, but in a few cases it was to be found in the second or fourth year.[83]

Text-books used in the teaching of astronomy were: Abbott, John S. C., "Young Astronomer"; Blake, John L., "First Book in Astronomy"; Brocklesby, John, "Elements of Meteorology"; Burritt, Elijah H., "Geography of the Heavens"; Cummings, Jacob A., "First Lessons in Geography and Astronomy"; Guy, Joseph, "Elements of Astronomy"; Herchell, John F. W., "Outlines of Astronomy," "Treatise on Astronomy"; Mackintyre, —, "Astronomy"; Mattison, H., "Elementary Astronomy," "Primary Astronomy"; Olmsted, Denison, "Compendium of Astronomy," "Introduction to Astronomy," "School Astronomy," "Rudiments of Astronomy"; Vose, John, "Compendium of Astronomy"; Wilbur, Hervey, "Elements of Astronomy"; Wilkins, John H., "Elements of Astronomy."

9. Botany

A search through considerable material bearing on the curricula of the early academies of Massachusetts failed to reveal any sure case of the presence of botany as a subject of study. However, the impetus given by the academies to the study of the natural sciences in general without doubt had its effect on the secondary schools in the matter of all the natural sciences. In the public schools botany first found a place in the curriculum of the High School for Girls in Boston. In the course of study for that institution in 1826 botany was offered as an optional study in any one of the three years of the course.[84] It should be remembered that this institution was suspended in 1828.

[80] Cf. p. 75.
[81] Cf. p. 82.
[82] Cf. pp. 88-93.
[83] Cf. p. 94.
[84] Cf. p. 19.

No legal requirements existed for the teaching of botany in the high schools of the state until 1857, when the subject was required in the high schools in towns of five hundred families and over.[85] The subject was never required for admission to college.

In 1834 three towns claimed to offer the subject of botany in the curricula of their schools. In 1838-39 and 1839-40 nine towns claimed to offer the subject, but in 1840-41 the number again fell to three towns.[86] From Table XX [87] it appears that in 1860-61 some forty-two out of the selected group of sixty-three towns offered botany in the curricula of their high schools. Some indication of the number of students taking the subject is presented in Tables XXVII - XXXII.[88] From these tables it will appear that the subject never attracted any large number of students.

Text-books used in the teaching of botany were: Comstock, John L., "Elements of Botany," "Introduction to Botany," "Young Botanist"; Comstock, John L., and J. C., "Illustrated Botany"; Congdon, "Elements of Botany"; Gray, Asa, "Botanical Text-Book"; Green, Roland, "Elements of Botany"; Lincoln, Mrs., "Conversations on Botany"; List, C., "Outlines of Botany"; Phelps, Mrs. Almira H. L., "Botany for Beginners," "Botany," "Familiar Lectures on Botany"; Wood, Alphonso, "Class-Book of Botany," "First Lessons in Botany."

10. Geology

Geology does not appear to have been a part of the secondary school curriculum until after the beginning of the high school period. The report of the school committee of Northampton for 1837 (page 14) indicates that geology was a part of the course of study, but no students are indicated as pursuing the subject.

The data presented in Table XVIII [89] indicate that but one town claimed to offer the subject up to 1840-41. Here the subject first appeared in the returns of the town of Ipswich for 1838-39.[90]

Geology never was required by law to be taught in the high

[85] Cf. p. 32.
[86] Cf. p. 75.
[87] Cf. p. 82.
[88] Cf. pp. 88-93.
[89] Cf. p. 75.
[90] Abstract of Mass. School Returns for 1838-9, p. 22.

school until the act of 1857, when the subject was made obligatory in the high schools of towns containing four thousand or more inhabitants.[91] The subject was never required for entrance to college.

In 1860-61, three years after the subject became a required study for high schools of the first grade, out of a selected group of sixty-three towns geology was taught in thirty-three. Some incomplete data regarding the number of students pursuing the subject in a few schools are presented in Tables XXVII-XXXII.[92] From this data it appears that, previous to 1861, not more than one-half of the high schools in the state offered geology in their course of study and only a small proportion of the students were engaged in studying it.

Text-books used in the teaching of geology were: Hall, James, "Geological Chart"; Hitchcock, Edward, "Elements of Geology, "Elementary Geology"; Loomis, J. R., "Elements of Geology"; Mather, William W., "Elements of Geology"; St. John, Samuel, "Elements of Geology"; Tenney, Sanborn, "Elements of Geology."

11. Physical Geography

The study of geography was made obligatory in the elementary schools of the state by the statute of 1827. No requirement was ever made for the teaching of it in the high schools, but in almost all high schools the subject was reviewed to some extent in the first year. During the early high school period physical geography did not appear in the high school program as a separate study, and whatever elements of physical geography were found were taught in connection with the general subject. In 1852, however, "Physical Geography" appears as a separate subject in the male and female departments of the English course of the Lowell High School.[93] In the report for 1853 of the Cambridge High School "Physical and Political" geography is set down in the course of study.[94]

Notwithstanding the lack of legal support and the absence of any college requirement, within the ten years previous to 1860-61

[91] Cf. p. 32.
[92] Cf. pp. 88-93.
[93] Lowell Report for 1852, pp. 8-9.
[94] Cambridge Report for 1853, pp. 46-7.

the subject of physical geography attained a position of considerable importance, being taught in forty-three of the selected group of sixty-three high schools considered in Table XX.[95] The figures presented in Table XXX[96] indicate that in the four towns there considered in which the subject was taught almost as large a percentage of students studied physical geography as studied algebra. The figures for the Springfield High School during the period 1855-61, show that eighteen per cent. of all the students in the high school studied physical geography.[97]

Text-books used in the teaching of physical geography were: Cartee, Cornelius S., "Elements of Physical and Political Geography"; Colton, George W., "Physical Geography"; Fitch, George. W., "Outlines of Physical Geography"; Guyot, Arnold H., "The Earth and Man"; Sommerville, Mrs. Mary, "Physical Geography"; Warren, D. M., "Physical Geography"; Zornlin, Rosina M., "Outlines of Physical Geography," "Physical Geography for Families and Schools."

12. Anatomy and Physiology

Anatomy seems to have appeared first in the returns of Edgartown for 1837.[98] It was found also in the returns of Dartmouth for 1839-40.[99] Under that head, however, the subject is found in the curricula of but seven towns out of the selected group of sixty-three up to 1860-61.[100] In general it soon gave way to the subject of physiology. This subject appeared first in the returns of Ipswich for 1839-40.[101] Up to 1840-41, however, neither anatomy or physiology was taught in more than two or three towns.[102] Within the decade 1840-50 numerous towns took up the subject of physiology so that by 1845 Horace Mann was able to say, "Human Physiology,—a Knowledge of the laws and conditions of Health and Life,—is now becoming common in the better class of schools, throughout the state."[103] By the law

[95] Cf. p. 82.
[96] Cf. p. 90.
[97] Cf. p. 93.
[98] Abstract of Mass. School Returns for 1837.
[99] Id. for 1839-40, p. 377.
[100] Cf. p. 82.
[101] Abstract of Mass. School Returns for 1839-40, p. 22.
[102] Cf. p. 75.
[103] Eighth Annual Report of the Secretary of the Board, 1845, p. 107.

of 1850,[104] it was provided that "Physiology and hygiene shall hereafter be taught in all the public schools of this Commonwealth in all cases in which the school committee shall deem it expedient." By the law of 1858,[105] physiology and hygiene were required in the common schools, but in 1859[106] they were again made permissive for all schools. The subject evidently increased in popularity for by 1860-61 forty-six of the sixty-three towns in the selected group had included the subject in the curricula of their high schools.[107] According to the figures of Horace Mann in 1842 four hundred sixteen students in the state were engaged in the study of "Human Physiology."[108] Some figures concerning the number of students pursuing the subject in various towns are presented in Tables XXVII - XXXII.[109]

Text-books used in the teaching of Physiology and Anatomy were: Comstock, John L., "Outlines of Physiology"; Cutter, Calvin, "Anatomy, Physiology and Hygiene," First Book on Anatomy and Physiology"; Griscom, J. H., "Physiology"; Hamilton, G., "Elements of Physiology"; Hooker, W., "First Book in Physiology," "Physiology and Hygiene for High Schools"; Jarvis, Edward, "Practical Physiology," "Physiology," "Primary Physiology"; Lambert, T. S., "First, Second and Third Books in Anatomy and Physiology"; Taylor Jane, "Elements of Physiology," "Physiology for Children."

13. Natural History and Zoology

From the returns at hand it would seem that Natural History under that name first made its appearance as a public school subject in Massachusetts in the course of study of the Boston English High School for 1833 where Smellie's "Philosophy of Natural History" and some other subjects were "allowed in the first class if the master think proper to introduce them."[110] In 1837 Lynnfield claimed to offer the subject in its school[111] and in 1840-41 Roxbury and Nantucket offered it.[112] Altogether, previous to

[104] Acts and Resolves, 1850, Chap. 229.
[105] Id. 1858, Chap. 5.
[106] Id. 1859, Chap. 38.
[107] Cf. p. 82.
[108] Cf. p. 87.
[109] Cf pp. 88-93.
[110] Regulations of the School Committee of Boston for 1833, Chap. IV, sect. 10.
[111] Returns for Lynnfield in the Abstract of Mass. School Returns for 1837.
[112] Returns for these towns in the Abstract of School Returns for 1840-1.

1840-41, probably not more than six or seven towns included natural history in the curricula of their schools.[113] By 1860-61 some twenty towns offered the subject.[114]

Zoology as a separate study under that name is found first in the course of study of the Waltham school for 1849-50.[115] By 1860-61 it had found a place in the curricula of eighteen towns of the selected group considered in Table XX.[116]

Neither natural history nor zoology were ever required by law to be taught in Massachusetts and no requirements for them were ever made for entrance to college.

Text-books used in the teaching of these sciences were: Smellie, William, "Philosophy of Natural History"; Smith, Henry H. and Homer, W. E., "Anatomical Atlas"; Ware, John, "Philosophy of Natural History"; Agassiz, Louis and Gould, Augustus A., "Principles of Zoology."

14. Other Physical Sciences: Scientific Apparatus

In addition to the more prominent subjects of study in the field of physical science treated above, several other departments of that branch of learning appeared occasionally in the curricula of the high schools of various towns.

Mineralogy appeared first in the curriculum of the Northampton High School at least as early as 1837,[117] but from the report it seems that there was no class in that subject. The next appearance seems to be in the case of the Concord High School in 1851-2.[118] By 1860-61 mineralogy had found a place in the high schools of some six towns at various dates.[119] No text-book is mentioned.

Meteorology first appeared in the curriculum of the Springfield High School in 1852.[120] It appeared in other places as follows: Danvers 1855 (Report, p. 6); Salem 1854 (Report, p. 13); Nantucket. In Springfield in 1855 over forty-two per cent. of the students pursued the subject.[121] This was, of course, unusual

[113] Cf. p. 75.
[114] Cf. p. 82.
[115] Waltham report for 1849-50, p. 4.
[116] Cf. p. 82.
[117] Northampton report for 1837, p. 15.
[118] Concord report for 1851-2, p. 3.
[119] Cf. p. 82.
[120] Springfield report for 1852, p. 10.
[121] Cf. p. 93.

and in the following year the number dropped to about ten per cent. The text-book regularly used was Brocklesby, John, "Elements of Meteorology."

Higher mathematics and engineering appeared in the curriculum of the English High School of Boston for 1852,[122] and in that of the Medford High School for 1854-55.[123] No other high school made a special study of these subjects before 1861 in Massachusetts.

Technology was found in the curriculum of the Concord High School for 1851-52.[124] Household science was taught in Springfield in 1861.[125] Blair's "Elements of the Arts and Sciences" was used in the English Classical (High) School of Boston by 1823-24.[126]

Scientific Apparatus

While the apparatus illustrating natural philosophy, chemistry, and other sciences, which was available to the students of the high schools during the early period considered in this discussion, was rather limited when compared with the apparatus which is available to-day, it must not be supposed that the work in the natural sciences was carried on without some use of the necessary apparatus. In most high schools there was little in the way of apparatus, and of this lack there is constant complaint on the part of the school committees in their reports. Many high schools, however, did possess a fairly complete set of scientific apparatus. An unusual case was that of the Worcester High school. In the report of the school committee of that town for 1848 on pages 18 and following, there is given a list of the apparatus at the disposal of the school which comprises one hundred sixty-one items ranging from a small jar costing twenty cents to a refracting telescope purchased at a cost of two hundred dollars.

15. English

The study of English grammar, English literature, and the allied branches had no place in the formal curriculum of the

[122] Rules and Regulations for 1852, Chap. IV, sect. 9.
[123] Medford report for 1854-5, p. 6.
[124] Concord report for 1851-2, p. 3.
[125] Springfield report for 1861, p. 44.
[126] Cf. p. 17.

colonial Latin grammar school. By the law of 1647 reading and writing were provided for in the lower school in all towns containing fifty householders or over.[127] The law of 1789 provided that in the lower schools teachers were "to teach children to read and write, and to instruct them in the English language."[128] By this latter law it was also provided that the masters of the Latin grammar schools were to be of competent ability to teach the higher subjects *in addition to the common school subjects.* There is no evidence to show that any of the strictly English branches ever appeared as a formal subject in the curriculum of the public secondary school of Massachusetts previous to the nineteenth century.

In the academy the study of English appears to have assumed a more prominent position. In the constitution of the Phillips Andover Academy the study of the English language was evidently put on a par with that of the classics and the "Art of Speaking" was there included. In the early course of the Leicester Academy provision was made for a separate "teacher of English, Writing, Arithmetic, etc."[129]

In the case of the Boston Public Latin School the regulations for 1789,[130] and those for about the year 1800, give no indication of the study of English in that school. At about that time, however, we know that provision was made in Boston for some work in the field of English for the scholars of the grammar school by permitting them to attend some English public or private school for writing, etc.[131] The account of the Boston Latin School given by Gould, headmaster 1814-1828, contains no mention of the study of the English branches except declamation,[132] but in the regulations of the school committee of Boston for the year 1826 the curriculum of that institution contained: for the first year, reading English; for the second to the fourth years, declamation, reading, English grammar; for the fourth year, English composition, forensic discussions.[133] Previous to this the

[127] Cf. p. 24.
[128] Cf. p. 25.
[129] Cf. p. 12.
[130] Cf. p. 2.
[131] Jenks, Henry F., Boston Public Latin School, p. 43.
[132] Jenks, as above, pp. 60 ff.
[133] Boston regulations for 1826, pp. 7 ff.

English Classical (High) School had been founded in Boston in 1821. Its first program providd for "Composition, Reading from the most approved authors, Exercises in Criticism; comprising analysis of the language, grammar, style of the best authors, their errors and beauties."[134] Here we have the real beginning of the study of English as a formal study in the public secondary school of Massachusetts and from this time on the study of the branches of English constantly gained ground.

It has been stated above that English grammar, etc., did not appear as a formal subject in the curriculum of the colonial Latin grammar school. It is not to be supposed, however, that no work was done along that line in that institution. The study of the Latin and Greek languages necessarily involved a considerable amount of practice and training in the English language and grammar. Entrance to the Latin grammar school presupposed and commonly required a knowledge of English grammar to a certain extent and the ability to read, write, and parse in English, and the theory of the grammar school was that a knowledge of the structure and usage of the English language was to be gained through the study of the classics.

By the law of 1827, English grammar and language were left as a requirement for the elementary schools,[135] and English never became a legal requirement for the high schools except that rhetoric was required in towns of four thousand inhabitants or over. The subject of rhetoric will be treated separately on pages 131-132. Harvard College did not require any English for admission until 1865-66.[136] At Williams College and Amherst grammar was required as early as 1829.[137]

The reports given in the Abstracts of Massachusetts School Returns for 1834-41, indicate that the study of English grammar in some form and the reading of selections of English were almost universal. As there were not more than eighteen high schools in existence in the state at that time this must mean that the elementary schools were devoting their attention rather extensively to the study of English. Undoubtedly all of the high schools then existent covered some or all of the various branches

[134] Cf. p. 16.
[135] Cf. p. 27.
[136] Harvard Catalog for 1865-6, p. 26.
[137] Quarterly Register and Journal, I, 1829, p. 228.

of English, but the lack of good gradation in many schools makes it difficult to estimate the exact status of the subjects at that period. For instance much that would now be classed under the head of English literature was at that time taught only in the readers employed.

The extent to which the various branches of English were studied in the high schools in 1860-61 may be seen from the figures given in table XX.[138] The studies of reading, writing, spelling, grammar, composition, rhetoric and declamation were found at that time in the courses of almost all the high schools considered in that select group of sixty-three towns, and there can be little doubt that if the reports gave complete data, we should find most of those subjects in all high schools. The study of English literature is specifically mentioned under that head in but thirty-two towns out of the sixty-three considered, but it was taught in many more towns in some form or other, if only in the readers.

An unusual case was that of the Plymouth High School where in 1857 the report of the superintendent of schools indicates a rather extensive course of study in some branches of English: "Also, for all the members of the school, through the whole course, exercises in Reading, Spelling, Enunciation, Definition, Analysis and Abstracts, oral and written, Conversations, Journalism, Composition, and Declamation." [139]

The general nature of the work done in English in the Massachusetts high school for the period under consideration in this discussion can best be seen from an examination of some of the text-books which were in common use. These are mentioned below.

Grammars: Alger, Israel, Jr., "Murray's Large Grammar"; Brown, Gould, "Institutes of English Grammar," "First Lines of English Grammar"; Bullion, Peter, "New, or Analytical Practical English Grammar," "Analytical and Practical Grammar of the English Grammar," "Principles of English Grammar"; Fowler, William C., "The English Grammar in its Elements and Forms"; Frost, John, "Elements of English Grammar"; Greene, Samuel S., "First Lessons in Grammar," "Grammar for Children," "Practical Grammar," "Inductive Grammar";

[138] Cf. p. 82.
[139] Report of the Superintendent of Schools, Plymouth, 1857, p. 53.

Kerl, Simon, "Comprehensive Grammar," "Elementary Grammar"; Latham, Robert, "Elementary English Grammar"; Latham, Robert G., "Handbook of the English Language"; Murray, Lindley, "English Grammar" (ed. by Bacon, Fisk, Alger, Hallowwell, Collins, Wallis, Pond); Smith, Roswell C., "Productive English Grammar," "Intellectual and Practical Grammar"; Tower, David B. and Tweed, Benj. F., "First Lessons in Language," "Lessons in English Grammar," "Grammar of Composition"; Wells, William H., "School English Grammar."

Readers: Daggett, H., "American School Reader"; Hillard, George S., "A Series of Readers"; Lowell, Mrs. Anna C., "Gleanings from the Poets"; Mandeville, Henry, "Course of Reading for Common Schools"; Parker, Richard and Watson, J. M., "National Readers"; Porter, Ebenezer, "Rhetorical Reader"; Russell, William and Goldsbury, J., "American Common School Reader and Speaker"; Russell, William, "Young Ladies' Elocutionary Reader"; Sargent, Epes, "Standard Readers"; Swan, William D., "District School Reader"; Tower, David B., "Gradual Reader."

Compendia of Literature: Chamber, Robert, "Cyclopedia of English Literature"; Cleveland, Charles D., "Compendium of English Literature"; Gray, "History of the English Language"; Hillard, George S., "English Literature and Biography"; Shaw, Thomas B., "Outlines of English Literature"; Spalding, William, "History of English Literature."

Composition, Pronunciation, Synonyms, etc.: Graham, George F., "English Synonyms"; Greene, Samuel S., "Analysis of English Grammar"; Lovell, J. E., "United States Speaker"; Lynd, James, "Class-book of Etymology," "The First Book of Etymology"; Murdock, J. F., and Russell, William, "Orthophony"; Parker, Richard G., "Aids to English Composition," "Progressive Exercises in English Composition"; Quackenbos, G. P., "Composition"; Stearns, E. J., "Practical Guide to English Pronunciation"; "Scholar's Companion."

Dictionaries: Walker; Worcester; Webster.

Authors mentioned: Bryant; Campbell, "Pleasures of Hope"; Cooper, "The Task"; Everett, "Orations"; Goldsmith; Gray; Hayne, "Orations"; Longfellow; Milton, "Para-

dise Lost"; Pope; Scott; Shakespeare; Tennyson; Thompson, "The Seasons"; Webster, "Orations"; Young, "Night Thoughts."

16. Rhetoric

Rhetoric as a formal study first found its way into the curriculum of the Massachusetts secondary schools through the academy; e. g., in the curriculum of the Pittsfield Academy for 1822[140] and in that of the Leicester for 1824.[141] In the public schools it was found first in the curriculum of the English Classical (High) School of Boston for 1823-4[142] although the subject was covered in part by the English studies required in the first program of that institution.[143] In the curriculum of the High School for Girls of Boston it was found in the first course of study in 1826.[144] It did not appear in the curriculum of the Boston Public Latin School until 1829.[145]

By the law of 1827 rhetoric was made obligatory in the high schools of towns containing four thousand inhabitants or over. This requirement remained in force throughout the period considered in this discussion.[146] By 1834 nine towns claimed to offer instruction in the subject under its special title and by 1840-41 eighteen towns claimed to offer the subject.[147] By 1860-61 forty-seven towns out of the selected group of sixty-three had included rhetoric in their high schools[148] and 82.5 per cent. of the towns required by law to offer the subject had complied with the statute.[149]

According to the figures given by Horace Mann in 1842 some six hundred one students were pursuing the subject in the state.[150] Some figures for later dates are given in Tables XXVII-XXXII.[151] From these figures it appears that, while many towns contained the subject in their curricula, the proportion of stu-

[140] Cf. p. 12.
[141] Cf. p. 12.
[142] Cf. p. 17.
[143] Cf. p. 17.
[144] Cf. p. 19.
[145] Boston report for 1829, p. 2.
[146] Cf. p. 72.
[147] Cf. p. 75.
[148] Cf. p. 82.
[149] Cf. p. 86.
[150] Cf. p. 87.
[151] Cf. pp. 88-93.

dents studying rhetoric as a formal subject was not very great if the data there presented represent the state of affairs correctly. It is to be remembered, however, that in many cases rhetoric may have been included under other heads, such as grammar, composition, etc.

Formal rhetoric usually covered two years of the high school course. Its position was commonly in the second or third year of the course or in both.[152]

The character of the work can best be seen by examining any one of the text-books in common use. These were: Blair, Hugh, "Lectures on Rhetoric"; Jamieson, Alexander, "Grammar of Rhetoric"; Newman, Samuel Phillip, "Practical System of Rhetoric"; Whateley, Richard, (Elements of) "Rhetoric"; Quackenbos, G. P., "Composition and Rhetoric."

Other books used were: Boyd, J. R., "Elements of Rhetoric and Literary Criticism"; Campbell, Geo., "Philosophy of Rhetoric"; Day, Henry N., "Elements of the Art of Rhetoric"; (Home, Henry) Lord Kane, "Elements of Criticism"; Parker, Richard G., "Aids to English Composition," et al.; Willard, Samuel, "Rhetoric."

17. French

In the constitution of the Phillips Andover Academy provision was made for the teaching of languages other than the English, Latin, and Greek languages at the discretion of the trustees.[153] If advantage was taken of this provision during the early years of the academy mention of it has escaped the writer. The curriculum of its sister academy at Exeter for 1818 did not contain French.[154] Before 1828 French was taught in the Leicester Academy.[155] In the High School for Girls of Boston in 1826 French was made an optional study during the last two years of the course.[156] In the English High School of Boston French was not mentioned in the regulations until 1836[157] though it has been claimed that it was introduced in 1832.[158] French was not required by law to be taught in the high schools until 1857 when it

[152] Cf. p. 94.
[153] Cf. p. 12.
[154] Bell, loc. cit. on p. 116.
[155] Cf. p. 12.
[156] Cf. p. 19.
[157] Regulations, p. 19.
[158] *Amer. Jour. of Ed.* 19, p. 485.

was made obligatory in the high schools of towns containing four thousand inhabitants and over.[159] It was never required for entrance to college within the period considered in this discussion.

The figures given in Table XVIII[160] indicate that up to 1840-41 French had not assumed a position of any importance in the high schools of the state, not more than five towns claiming to offer the subject up to that date. Subsequent to that time, however, French began to gain in importance, taking the place of Greek as a study in the English high schools, and especially in the girls' high schools. By 1860-61 some fifty-five towns, out of the selected group of sixty-three towns, offered French,[161] and of the towns in that group required by law to teach French in their high schools over ninety-two per cent. had complied with the mandate of the law.[162] The number of students in various towns pursuing the study of French is indicated to some extent in the Tables XXVII-XXXII.[163] It may be noted that a relatively large number devoted themselves to that study. In the Lowell High School for the three years 1849-1851 the percentage of boys pursuing the subject was about three per cent., as compared with fifty-nine per cent. of the girls.[164] This, however, must not be taken as a standard.

Some of the text-books read were:

Grammars, Readers, etc.: Chapsal, Gabriel P. and Noel, François, J. M., "Leçons d'Analyse Grammaticale"; Fowle, William B., "First French Class-Book"; Felton, "Elementary French Reader"; Collot, Alexandre G., "Dramatic French Reader," "French Dialogues," "Progressive French Dialogues and Phrases"; Chouquet, Gustave, "French Conversations and Dialogues"; Fasquelle, Louis, "Juvenile French Course," "French Reader"; Gengembre, R. W., "Practical French Instructor"; Le Fias, "Classic French Reader"; Levizac, Jean P. V., "Theoretical and Practical Grammar of French" (ed. Bolmar, A.); Longfellow, Henry W. (and Marshall), "French Grammar"; Nason, "French Reading Book"; Ollendorf, Heinrich G., "French Grammar, New Method adapted to the French," "New Method of Learning French"; Perrin, John, "French Fables,"

[159] Cf. p. 32.
[160] Cf. p. 75.
[161] Cf. p. 82.
[162] Cf. p. 86.
[163] Cf. pp. 88-93.
[164] Cf. p. 91.

" French Grammar," " Grammar of the French Tongue "; Pinney, Norman, " The Progressive French Reader," " Elementary French Reader," " Practical French Teacher," " First Lessons in French "; Roemer, J., " First and Second French Readers "; Robertson, T., " New System of Teaching the French Language "; Surault, François M. J., " Practical Grammar of the French Language."

Dictionaries: Boyer, Abel; Flemming and Tibbin; Meadows, F. C.; Spiers, Alexander and Surenne, Gabriel (also ed. by Quackenbos, G. P., and Jewett, J. L.).

Books read: " Etudes de la Nature "; " Rowan "; " Nouvelles Genevoises "; "Le Courrier des Etats Unis "; " Paul et Virginie "; " La Petite Fadette "; " Le Grandpère "; " Henriade "; " L'Historie des Etats Unis "; " Le Coin du Feu "; " Vie de Washington "; " Piciolla "; " Seige de la Rochelle "; " De L'Allemagne "; Siècle de Louis XIV "; " Charles XII "; " Andromaque "; " Iphigénie "; " La Thèbaïde "; " Les Plaideurs "; "Athalie "; " L'Orient "; " Philosophies d'Antiquité "; " Guillaume Tell "; " Télémaque "; " Corinne "; " Napoléon "; " Histoire de France."

Other texts: Bolmar, A., " Colloquial Phrases "; Bossuet, " French Words and Phrase-Book "; Bugard, B. F., " Practical French Translator "; Collot, Alexandre G., " Anecdotes and Questions in French "; De la Porte, " French Speaking Exercises "; Talbot, Guillaume H., " Philosophy of French Pronunciation."

18. Spanish: Italian: German

With the exception of French the modern languages did not occupy a very prominent position in the high schools of Massachusetts before the Civil War. Altogether by 1860-61 Spanish had appeared in the curricula of four schools, Italian in two, and German in six.[165]

Spanish appeared in the high school field first in Salem, where it was found at least as early as 1830 and perhaps earlier.[166] Subsequent to that time it appeared irregularly in various reports of that town.[167] Spanish was also introduced into the English High

[165] Cf. p. 82.

[166] Salem report for 1830, pp. 4 ff. Cf. Catalog of the late English High School of Salem, 1857, pp. 3 ff., where an account is given by Henry K. Oliver, the first teacher in the school.

[167] Cf. Salem report for 1857, pp. 2 ff. for example

School of Boston as early as 1856.[168] In the Sommerville High School it was taught in 1853.[169] In the Medford school committee report for 1854-5 in the course of study given on pages 6 ff. this statement is found: "The Spanish, Italian, and German Languages may be commenced by such pupils as in the judgment of the Master have acquired a competent knowledge of the French."

Italian first appears in the high school course of study in Massachusetts in the Brighton High School in 1843.[170] It was also taught in the Medford High School as indicated above. No other towns appear to have offered the subject.

German first appeared in the curriculum of the Massachusetts High School in Dorchester in 1854.[171] In the report of the school committee of Wayland for 1854-5 German was included in the proposed course of study but there is no evidence to show that it actually was taught.[172] In 1855 eight students of German were reported in the Newburyport High Schools.[173] In the same year it appeared in the course of study of the Nantucket High School,[174] and in 1858 it was found in the Lawrence High School.[175] Its adoption in the Medford High School has been mentioned above.

The text-books mentioned were: Adler, Geo. J., "German Reader," "Progressive German Reader"; "Grimm, Jacob L. C., and William, Karl, "Kinder-und-Haus-Märchen"; Woodbury, W. H., "German Reader," "Manual of the German Language," "Shorter Course with the German Language."

19. Logic

The first constitution of the Phillips Andover Academy called for the teaching of logic in that institution, and this represents the first introduction of that subject into the field of secondary education in Massachusetts.[176] In the public school logic first appeared in the program of the English Classical (High) School of Boston in 1821.[177] In the first course of study of the High School for

[168] Cf. Boston report for 1853, Chap. IV. sect. 9.
[169] Sommerville Rules and Regulations for 1853.
[170] Brighton reports for 1843, p. 4, and for 1844, p. 7.
[171] Dorchester report for 1854, p. 14.
[172] Wayland report for 1854-5, p. 3.
[173] Newburyport report for 1855, p. 8.
[174] Nantucket report for 1855, p. 9.
[175] Lawrence report for 1858, pp. 73 ff.
[176] Cf. p. 12.
[177] Cf. p. 17.

Girls of Boston the subject was made optional in any of the three classes.[178] By the law of 1827 logic was made obligatory in the high schools of towns containing four thousand inhabitants or over and this requirement remained in force until 1898.[179] In 1834 the returns showed but two towns which claimed to offer the subject in their schools and the largest number up to 1840-41 was seven in 1839-40.[180] By 1860-61 logic was found in the curriculum of but twenty-two high schools out of the selected group of sixty-three towns and of the high schools in which the subject was required by law only about forty-five per cent. of the high schools had obeyed the mandate of the law.[181] In 1842, according to the returns of Horace Mann, but three hundred thirty pupils in the state were engaged in the study of logic.[182] During the period 1849-51 not a single student studied logic in the Lowell High School,[183] and the same was the case in the Springfield High School during the period 1855-61.[184] Altogether the subject never received the support in the schools which the law had designed. The position of the subject in the course of study was regularly in the third or fourth year.[185]

The text-books in common use were: Coppee, H., "Elements of Logic"; Hedge, Levi, "Elements of Logick"; Whateley, Richard, "Lessons on Reasoning," "Easy Lessons on Reasoning," "Elements of Logic."

20. Bookkeeping

Bookkeeping was introduced into the field of secondary education by the academy.[186] Its first appearance in the public school was in the program of the English Classical (High) School of Boston for 1823-4,[187] where it was prescribed for the third or lowest class as "Book-keeping, by Single and Double Entry." By the law of 1827 it was made a required subject in the high schools of all towns containing five hundred families or over and it remained

[178] Cf. p. 19.
[179] Cf. p. 72.
[180] Cf. p. 75.
[181] Cf. pp. 83-86.
[182] Cf. p. 87.
[183] Cf. p. 91.
[184] Cf. p. 93.
[185] Cf. p. 94.
[186] Cf. p. 13.
[187] Cf. p. 17.

among those requirements until the law of 1898.[188] Notwithstanding this legal support, however, as late as 1834 the returns indicate but one town claiming to offer the subject. By 1838-39 the number had increased to seventeen and in 1840-41 twenty-one towns claimed to offer bookkeeping in the public schools.[189] By 1860-61 it had appeared in the curricula of fifty-five towns out of the selected group of sixty-three and over eighty-seven per cent. of the towns required by law to provide the subject in the high schools met the requirements.[190]

In 1842 Horace Mann reported that 1472 students in the state were engaged in the study of bookkeeping.[191] The number pursuing the subject in various towns and at various periods is indicated in Tables XXVII-XXXII.[192] The position of the subject in the course of study varied in the different towns.[193]

The text-books in use for the teaching of bookkeeping were: Batchelder, Jacob, "National Accountant"; Bennet, J., "Bookkeeping"; Clarke, "Bookkeeping"; Coffin, James H., "Exercises in Bookkeeping"; Crittenden, S. W., "Elementary Treatise on Bookkeeping for Single and Double Entry"; Cutter, "Bookkeeping"; "Duntonian System of Bookkeeping"; Foster, Benj. F., "Practical System of Bookkeeping by Single Entry," "Concise Treatise on Commercial Bookkeeping"; Fulton, Levi S., and Eastman, Geo. W., Practical System of Bookkeeping by Single and Double Entry"; Hanniford & Payson, "Bookkeeping"; Harris, Nicholas, "First Lessons in Bookkeeping"; Hayden, "Common School Account Bookkeeping"; Hitchcock, E., "Bookkeeping"; Hitchcock, Irvine, "Bookkeeping: Journal and Ledger"; Jones, Thomas, "Principles and Practice of Bookkeeping"; Marshall, "Bookkeeping"; Mayhew, Ira, "Practical Bookkeeping"; Northend, C., "Bookkeeping"; Preston, Lyman, "Treatise on Bookkeeping by Double and Single Entry" (14th ed., 1837); Robinson, James, "Compend of Bookkeeping by Single Entry"; Winchester, G. W., "System of Bookkeeping."

[188] Cf. p. 72.
[189] Cf. p. 75.
[190] Cf. pp. 83-84.
[191] Cf. p. 87.
[192] Cf. pp. 88-93.
[193] Cf. p. 94.

21. History

In the colonial Latin grammar school more or less attention was given to ancient history in connection with the study of the classics. In the program of the Public Latin School of Boston for 1789[194] no mention is found of history as a separate subject of study. During the headmastership of Gould (1814-1828) Valpy's "Chronology of Ancient and English History" was used in the second year.[195] In the course of study of the same institution for 1826 we find "History and Chronology, Constitution of U. S. A. and of Mass."[196] In the course of study of the Pittsfield Academy for 1822 "history" appeared without any indication of its character.[197] In the curriculum of the Leicester Academy for 1824 appeared "Whelpley's Compend of History."[198] In the English Classical (High) School of Boston the course of study for 1821 provided for "Ancient and Modern History and Chronology" in the second year and for "History, particularly that of the United States" in the third year.[199] In the program of the same institution for 1823-24 among the studies prescribed for the lowest class appears "General History, by Tytler; History of the United States, by Goodrich."[200] In the course of study for the High School for Girls for 1826 the history of the United States was prescribed for the first year, general history and the history of England for the second year, and the histories of Greece and Rome for the last year.[201]

From these data it may be seen that by the time of the passage of the law of 1827 history had assumed an important position in the field of secondary education, being found in all types of institutions of that grade. By the law of 1827 the history of the United States was required in the high schools of all towns containing five hundred families or over. In 1857 it was dropped from the required studies of the high school and was made obligatory in the elementary school. General history was made a required study in the high schools of towns containing four thou-

[194] Cf. p. 2.
[195] Jenks, H. F., Boston Public Latin School, p. 61.
[196] Cf. p. 7.
[197] Cf. p. 13.
[198] Cf. p. 12.
[199] Cf. p. 17.
[200] Cf. p. 17.
[201] Cf. p. 19.

sand inhabitants by the law of 1827 and so remained until the act of 1857 when it was relegated to the high schools of the lower grade. No other history was ever required by law in Massachusetts.[202]

The great popularity of the study of history is attested by the figures given in Table XVIII.[203] By 1834 sixty towns claimed to offer the history of the United States in their schools and twenty-nine some form of history other than the United States. By 1837 the number had leaped to two hundred and ninety-four respectively. As interest in the subject increased the histories of special countries or special periods were introduced into the curricula of some high schools. As indicated above the study of the history of England had been introduced into the schools of Boston before the passage of the act of 1827. By 1860-61 it had found a place in the high schools of thirteen towns out of the group of sixty-three towns considered in Table XX.[204] The history of France was taught as a separate subject in Salem perhaps as early as 1827.[205] It was also taught in Plymouth in 1857.[206] Mediaeval history was offered as a special subject in Charlestown in 1855[207] and by 1860-61 it had appeared in four towns in the selected group.[208] Data regarding other special divisions of the subject of history are presented in Table XX.

The different subdivisions of the subject in the various towns make it impossible to group the subjects in such a way as to indicate clearly the exact extent to which the towns had met the requirements of the law by 1860-61. By that date thirty-nine towns of the selected group of sixty-three had included the history of the United States in their high school curricula.[208] It should be remembered, however, that by the law of 1857 the obligation to teach that subject in the high schools had been abrogated.[209] Of that same group fifty towns had included general history in the curricula of their high schools and that number would undoubtedly be increased if it were possible to estimate the degree to which a combination of various subdivisions of history, modern,

[202] Cf. p. 72.
[203] Cf. p. 75.
[204] Cf. p. 82.
[205] Catalog of the late English High School of Salem, pp. 3 ff.
[206] Plymouth report for 1857, pp. 52 ff.
[207] Charlestown report for 1855, p. 14.
[208] Cf. p. 82.
[209] Cf. p. 32.

mediaeval, etc., might be considered to meet the legal requirements.

The extent to which history had secured a hold on the students in the high schools is also indicated by the figures secured by Horace Mann in 1842.[210] At that time 10,177 students were engaged in the study of the history of the United States and 2571 in the study of general history. The proportion of students pursuing the subject of history in several towns is indicated in Tables XXVII-XXXII.[211] Here the various subdivisions are grouped and the totals only given. It is clear from these figures that, at least for the towns considered in these tables, a large number of pupils was engaged in the study of some form of history at all periods and in all schools.

By 1860-61 the history of the United States had rather consistently assumed a position in the first year of the high school course and general history tended to be found in one or both of the first two years.[212]

The text-books in use were as follows:

United States History: Davenport, Richard A., "History of the United States"; Emerson, Joseph, "Questions and Supplement to Goodrich's History of the United States"; Frost, John, "History of the United States"; Goodrich, Charles A., "History of the United States"; Grimshaw, William, "History of the United States"; Hale, Salma, "History of the United States"; Hall and Baker, "History of the United States"; Hildreth, Richard, "View of the United States"; Lossing, Benson J., "History of the United States"; Olney, Jesse, "History of the United States"; Parley, Peter, "History of the United States"; Quackenbos, G. P., "History of the United States"; Webster, Noah, "History of the United States"; Willard, Mrs. Emma, "History of the United States"; Woodbridge, "History of the United States"; Worcester, Joseph E., "History of the United States"; Robins, Mrs. Eliza, "American Popular Lessons"; Blake, John L., "History of the American Revolution."

General History: Butler, Frederick, "Sketches of Universal History"; Lardner, Dionysius, "Outlines of Universal History"; Peabody, R., "Universal History"; Robbins, R., "Outlines of

[210] Cf. p. 87.
[211] Cf. pp. 88-93.
[212] Cf. p. 94.

History"; Tytler, Alexander F., "Elements of History," "Universal History"; Weber, George, "Outlines of Universal History"; Whelpley, Samuel, "Compend of History"; Worcester, Joseph E., "Elements of History"; Parley, Peter, First, Second, and Third Books of History," "Common School History."

Special Fields: Edwards, Amelia B., "Outline of English History"; Goldsmith, Oliver, "History of England (ed. Pinnock, William)"; Markham, P., "History of France"; Worcester, Joseph E., "History of New England"; Baker, George, "History of Rome"; Kneightley, "History of Greece"; Rollins, "Ancient History"; Schmitz, Leonhard, "History of Rome"; Sewell, Elizabeth M., "Child's First History of Rome"; Worcester, Joseph E., "Ancient History."

22. Political Science

The study of political theory and practice was found in the curricula of the Massachusetts schools under the titles of political philosophy, political science, and political economy. In the curriculum of the English Classical (High) School of Boston for 1821 "Political Philosophy" was prescribed for the last year of the course.[213] It does not appear, however in the course of study for 1823-24[214] nor until 1852 when it appears in the course of study of that institution under the head of "Political Economy."[215]

The subject was never required by law until the statute of 1857 when it was made obligatory in the high schools of towns containing four thousand inhabitants or over under the title of "Political Economy."[216] Nevertheless by 1834 some twelve towns claimed to include the study in the curricula of their schools and by 1840-41 some thirty towns claimed to offer the subject.[217] At the latter date twenty-five of the thirty towns reported Sullivan's Political Class Book to be in use and three mentioned Wayland's "Political Economy."[218] By 1860-61 the subject appeared in the high school curricula of sixteen towns under the title of political economy and in seventeen under the title of political philosophy or political science.[219] Of the forty towns in the group of sixty-

[213] Cf. p. 17.
[214] Cf. p. 17.
[215] Boston report for 1852, Chap. IV, sect. 9.
[216] Cf. p. 73.
[217] Cf. p. 75.
[218] Complied from Abstract of Mass. School Returns for 1840-41.
[219] Cf. p. 83.

three towns there considered which were required by law to offer the subject in their high schools, twenty-two towns or fifty-five per cent. met the provisions of the law.[220] The position of the subject in the course of study was regularly in the last year.[221]

Text-books used in the study of political science were:

Bayard, James, "Outlines of Political Economy"; Paley, William, "Principles of Moral and Political Philosophy"; Wayland, Francis, "Elements of Political Economy"; Sullivan, William, "Political Class Book."

23. Civics

While the term "civics" was not employed we may include under that head various subjects found in the curricula of the Massachusetts high school under the titles "constitution of the United States," "constitution of Massachusetts," "city charter," "the civil polity of this Commonwealth and of the United States." Under the last mentioned title the subject appeared in the law of 1857 by which it was made obligatory for all high schools in towns containing five hundred families or over.[222] In the course of study prescribed for the English High School of Boston in 1828 we find among the studies of the lowest class "Stansbury's Catechism on the Constitution of the United States."[223] In Rutland the "Constitution of Massachusetts and United States" was studied in 1839-40.[224] In the course of study prescribed for the English High School of Salem in 1842 we find the following: "Political Economy and Government; The text-books shall be Wayland's Political Economy, the City Charter, Constitution of Massachusetts, and Bayard on the Constitution of the United States."[225]

Doubtless, as is suggested by the wording of the last citation, many of the elements of civics and the study of the constitutions of Massachusetts and the United States were included in many cases in some of the other subjects, history, political science, etc. However that may be, by 1860-61 we find but twenty-eight towns out of the selected group of sixty-three towns offering the con-

[220] Cf. p. 86.
[221] Cf. p. 94.
[222] Cf. p. 32.
[223] Boston report for 1828.
[224] Rutland Returns in Abstract of Mass. School Returns for 1839-40, p. 177.
[225] Regulations for the Superintendence, etc., Salem, 1842, pp. 11 ff.

stitution of the United States in their high schools and but eleven of that group offering the constitution of Massachusetts.[226] Salem was the only town which offered in the high school curriculum the study of civic duties appertaining to the city government, etc.

Text-books used were:

Bayard, James, "Exposition of the Constitution of the United States"; Flanders, Henry, "An Exposition of the Constitution of the United States"; Hale, Salma, "Constitution of the United States"; Mansfield, Edward, "Political Grammar of the United States"; Mason, Cyrus, "On the United States Government"; Sheppard, F., "Constitutional Text Book"; Shurleff, J. B., "Governmental Instructor"; Stanisbury, Arthur J., "Elementary Catechism on the Constitution of the United States"; Story, Joseph, "Constitutional Class Book," "Familiar Exposition of the Constitution of the United States," "Commentaries on the Constitution of the United States"; Sullivan, William, "Political Class Book"; Wedgwood, William, B., "Revised Statutes of the Commonwealth of Massachusetts."

24. Mental Science

Aside from logic and whatever elements of the mental sciences may have been included in other subjects in the curriculum specific instruction was given in the Massachusetts schools in mental science or intellectual philosophy, as it was frequently termed. No special instruction had been given along this line in the Latin grammar school but the subject early found a place in the academy. Thus in the curriculum of the Leicester Academy for 1824 we find mentioned: "Conversations on Intellectual Philosophy" and "Watts On the Mind."[227] In the curriculum of the English High School of Boston for 1829 intellectual philosophy and some other subjects were permitted in the last year "if the master think proper to introduce them."[228]

No provision was made by statute for the teaching of the subject until 1857 when it was made obligatory for all high schools in towns containing four thousand inhabitants or over.[229] Nevertheless during the period 1830-40 the study became very popular. In 1834 but one town in the state claimed to offer the subject in

[226] Cf. p. 83.
[227] Cf. p. 12.
[228] Boston Report for 1829, pp. 18 ff.
[229] Cf. p. 32.

its schools but by 1840-41 one hundred sixteen towns out of a total of three hundred four claimed to offer the subject.[230] This was more than any other higher study could claim at that time except natural philosophy and United States history. Of these towns one hundred ten mentioned "Watts on the Mind" as the text studied, and six Abercrombie's "Mental Philosophy."[231]

By 1860-61 forty-five out of the selected group of sixty-three towns had included mental science in the curricula of their high schools[232] and of those required by law to offer the subject eighty per cent. had complied with the law.[233] Some figures illustrating the number of students pursuing the subject in various towns are given in Tables XXVII-XXXII.[234] The position of the subject in the course of study was regularly in the last or next to the last year.[235]

Text-books in common use were:

Abercrombie, John, "Mental Philosophy"; Haven, Joseph, "Mental Philosophy"; Reid, Thomas, "Essays on the Intellectual Powers of Man"; Upham, Thomas C., "Elements of Mental Philosophy"; Watts, Isaac, "On the Improvement of the Mind"; Wayland, Francis, "Mental Science"; Winslow, Hubbard, "Elements of Intellectual Philosophy."

25. Moral Science and Religion

The study of the principles of morality and religion occupied no inconsiderable position in the curricula of the Massachusetts schools during the nineteenth century. More or less study of the Bible was always to be found and occasionally we find a reference to the use of the catechism: e. g., in Longmeadow in 1839-40 we find the "Assembly's Shorter Catechism" among the books in use.[236] As a formal study under the general head of moral science and religion we may include "Moral Philosophy," "Moral Science," "Natural Theology," "Evidences of Christianity," "Ethics," and "Butler's Analogy," all of which were to be found in the curricula of the high schools of Massachusetts.

[230] Cf. p. 75.
[231] Compiled from the Abstract of Mass. School Returns for 1840-1.
[232] Cf. p. 83.
[233] Cf. p. 86.
[234] Cf. pp. 88-93.
[235] Cf. p. 94.
[236] Abstract of Mass. School Returns for 1839-40, p. 246.

Moral science as a special subject of study had occupied a place in the curriculum of the academy. Specific mention may be found in the curriculum of the Pittsfield Academy for 1822 under the title of "moral philosophy."[237] In the course of study for the English Classical (High) School of Boston in 1821 "Moral Philosophy" was prescribed for the last class.[238] In the course of study for the same institution for 1823-24 "Natural Theology, by Paley" was prescribed for the second class and "Moral Philosophy, by Paley" and "Evidences of Christianity, by Paley" for the third class.[239] In the curriculum of the High School for Girls of Boston for 1826 "Paley's Natural Theology" was prescribed for the second year and "Paley's Evidences of Christianity" for the third year.[240] No legal requirements existed regarding the subject until 1857 when "moral science" was made obligatory in the high schools of all towns containing four thousand inhabitants or over.[241]

In 1834 moral science as a separate subject of study was found in four towns of the state and by 1838-39 the number had increased to twenty-one.[242] In 1840-41 some fourteen towns claimed to offer the subject, the distribution being as follows: moral science in ten towns; natural theology in three; evidences of christianity in one.[242] Data regarding the introduction of each of the separate topics, together with the extent of its adoption by 1860-61 may be found in Table XX.[243] It may be noted that, under the various headings, the subject had met with considerable success, under the head of moral science being found in thirty-six towns out of the sixty-three considered in the table and under the head of natural theology being found in fifteen. In Tables XXVII-XXXII[244] are presented some data regarding the number of students pursuing the subject in several towns. The position in the course of study was regularly in the last year.[245]

Text-books in common use were:

Abercrombie, John, "Moral Philosophy"; "Philosophy of the

[237] Cf. p. 13.
[238] Cf. p. 17.
[239] Cf. p. 17.
[240] Cf. p. 19.
[241] Cf. p. 32.
[242] Cf. p. 75.
[243] Cf. p. 83.
[244] Cf. pp. 88-93.
[245] Cf. p. 94.

Moral Feelings"; Butler, Joseph, "Analogy of Religion"; Dick, Thomas, "The Christian Philosophy"; Gallaudet, Thomas H., "Youth's Book of Natural Theology"; Paley, William, "Evidences of Christianity," "Natural Theology," "Moral Philosophy"; Paxton, Geo., "Illustrations of Paley's Natural Theology"; Sullivan, William, "Moral Class Book"; Wayland, Francis, "Elements of Moral Science"; Whewell, William, "Elements of Morality"; "Manual of Morals."

26. Drawing

In 1826 map drawing and the principles of perspective were introduced into the curriculum of the High School for Girls of Boston.[246] In 1829 "Linear Drawing" was a subject allowed in the last year of the English High School.[247] According to the data given in the Abstract of Massachusetts School Returns for 1839-40 Cambridge was the only town which specifically laid claim in those returns to the teaching of drawing in its schools.[248] In 1842 twenty-seven students in the Charlestown schools pursued the subject.[249] As a subject requiring special attention the study of drawing was one of slow growth in the high schools of Massachusetts but by about 1850 the reports of the various towns indicate a tendency to devote more attention to the study. In 1854-55 the school committee of Framingham made a knowledge of drawing an "indispensable qualification for the assistant in both High Schools."[250] By the law of 1859 drawing was made permissive in all public schools.[251] Up to 1860-61 twenty-five towns out of the selected list of sixty-three towns (thirty-nine per cent.) had included drawing in the curricula of their high schools.[252] Some of the most extensive work in this subject was done in Roxbury.[253]

Text-books mentioned in the teaching of drawing were:

Fowle, William B., "Linear Drawing and Perspective"; "Bartholemew, William U., "System of Drawing."

[246] Cf. p. 19.
[247] Boston report, pp. 18 ff.
[248] Abstract of Mass. School Returns for 1839-40, p. 62.
[249] Charlestown report for 1842, p. 4.
[250] Framingham report for 1854-5, p. 19.
[251] General Statutes, Chap. 38, sect. 1.
[252] Cf. p. 83.
[253] Roxbury Regulations for 1857, pp. 19ff.

27. Music

Music was doubtless introduced into the Massachusetts schools early in an incidental way. The first specific mention of it as a subject of study is found in Northampton in 1837 when nearly all of the girls in the high school were reported to be engaged in that study.[254] In the returns from the same town for 1838-39 the Boston Academy's "Manual of Music" was mentioned among the text-books in use.[255] In the Abstract of Massachusetts School Returns for 1839-40 no mention was made of the subject of music in the schools of the state. That this did not represent the true condition of affairs, however, is seen from the statement of Horace Mann in his report for 1845: "There are about five hundred schools in the state where Vocal Music is now practiced. Half a dozen years ago, the number was probably less than one hundred." [256]

By the law of 1859 music was included among the subjects which were permitted in all schools.[257] By 1860-61 nineteen towns out of the selected group of sixty-three had included music in the curricula of their high schools as a special subject.[258]

28. Miscellaneous Subjects

A few subjects other than those treated in the previous discussion were to be found from time to time in some of the high schools. Some of these are deserving of attention because of their bearing on the attempt to introduce subjects which would function in the practical life of the students. Among these may be mentioned bookkeeping, shorthand, sewing, agricultural chemistry, commerce, useful arts and sciences, household science, etc. Bookkeeping has been discussed on pages 136-137. Of the others none ever attained any secure position in the curricula of the Massachusetts high schools. Shorthand was introduced in Waltham in 1854 under the title of phonography: "A new study has been introduced during the year, that of Phonetic Shorthand or Phonography. . . . . A voluntary class of over forty pupils was formed: and afterwards the study was required of the whole of the youngest

[254] Northampton Report for 1837, pp. 14 ff.
[255] Abstract of Mass. School Returns for 1838-9, p. 162.
[256] Eighth Annual Report of the Secretary, 1845, p. 117.
[257] General Statutes, Chap. 38, sect. 1.
[258] Cf. p. 83.

class in the school." [259] Isaac Pitman's " Manual of Phonography " was adopted at this time.[260] In 1856-57 the subject was introduced into the last year of the grammar school course.[261] No other school adopted the subject within the period under consideration in this discussion.

Sewing was introduced in the girls' schools of Worcester in 1840: " Needle-work is permitted in the Primary Schools two half days in each week, and in the higher female schools one-half day." [262]

Agricultural Chemistry was introduced in Ipswich in 1845 [263] and was permitted in Springfield in 1857.[264]

The study of the " Book of Commerce " was introduced into the Plymouth High School by 1838.[265] By 1860-61 it had appeared in the curricula of five towns out of the selected list of sixty-three.[266]

Blair's " Elements of the Arts and Sciences " was introduced into the curriculum of the English Classical (High) School of Boston in 1823-24 [267] but it was dropped in 1827.[268] It never appeared in any other school.

Household Science appeared first in the curriculum of the Springfield High School in 1858.[269] It was never found in any other high school of the state before 1861.

[259] Waltham report for 1855, p. 4.
[260] Id. for 1856-7, p. 7.
[261] Mass. Report for 1857, p. 209.
[262] Worcester report for 1840, p. 7.
[263] Ipswich report for 1841, p. 5.
[264] Springfield report for 1857, p. 49.
[265] Abstract of Mass. School Returns for 1838-9, p. 305.
[266] Cf. p. 83.
[267] Cf. p. 17.
[268] *Amer. Jour. of Ed.* 19, p. 485.
[269] Springfield report for 1858, p. 66.

CHAPTER VII

SUMMARY AND CONCLUSION

1. Conditions Antecedent to the High School Movement: The Influence of Other Institutions

In Chapter I have been discussed the various educational institutions of Massachusetts up to the end of the first quarter of the nineteenth century. There were considered the Latin grammar school, the academy, and the elementary schools of the state. The condition of those institutions at the time of the beginning of the high school movement may be summarized here.

(1) *The Latin Grammar School.* This institution, the only one providing for secondary education in Massachusetts until the beginning of the academy in the last quarter of the eighteenth century and the only public secondary institution in the state up to the inception of the high school movement, had fallen into a very low state by the beginning of the high school period. Only a few of the larger cities continued to maintain such schools and by the law of 1824 all but seven towns in the state were relieved of the necessity of maintaining such institutions by the fulfillment of an easy condition.[1] There was, therefore, imperative need in defense of public secondary education for some such action as that represented by the law of 1827. That this action should proceed along lines somewhat different from preceding practice was demanded by the very decline of the Latin grammar school, the success of the academy movement, and the general educational and economic situation.

By the law of 1827 the Latin grammar school received its death blow and with the exception of a few special institutions such as the Public Latin School of Boston the older type of school disappeared or was merged into the newer type, sometimes leaving its traces in separate classical schools or separate classical departments.

The contribution of the Latin grammar school to the new type

[1] Cf. p. 26.

of school, the high school, was a body of subject matter, the Latin and Greek languages, which, because of a body of method developed around it, a body of teachers more or less well trained, and its great prestige, continued to contribute much to the high school.

(2) *The Academy.* This institution, beginning in the last quarter of the eighteenth century, had grown in popularity until by 1820 thirty-six academies had been incorporated in the state and many others were doubtless in operation. By 1825 the number which had been incorporated was forty and within the years 1826-1830 twenty-eight more had been incorporated.[2] Thus by the beginning of the high school movement the academy had become an institution of far greater influence than the Latin grammar school. At that time it had not only gained a hold on the field of secondary education in the state but was looked upon as a semi-public institution well fitted to take the place of an institution wholly supported by the state.[3]

Until the middle of the century the academy continued to maintain its ascendancy over the public institution for secondary education but before the period under consideration in this discussion had closed the academy had begun to yield ground to the high school and by 1860 we find the high school securely established.

Three elements the academy introduced into the field of secondary education in Massachusetts and contributed to the high school: (*a*) A new theory and aim in secondary education, that higher training should be provided for those pupils who did not intend to go to college, a training which should fit such students for a non-professional career; (*b*) a new body of subject matter which greatly transcended that of the Latin grammar school and provided the sort of training required by the new aim; (*c*) the theory that higher education should be provided for girls. The first two of these elements were included in the plan of the English Classical (High) School of Boston in 1821 and the third was met by the establishment of the High School for Girls in that city in 1826. All three elements were included in the provisions of the law of 1827 and put into operation by the high schools established in accordance with that law.

(3) *The Elementary School.* The relation between the Latin grammar school during the colonial period and the lower schools

[2] Cf. p. 11.
[3] Cf. p. 10.

had never been very close. This lack of articulation was in some ways emphasized by the development of the district system and especially as a result of the laws of 1789, 1800, 1817, and 1826.[4] Of particularly bad effect was the provision in the law of 1827 which created a dual system of control and administration, the town committee in charge of the high school and the prudential committee, consisting at first of one man and later of three, in charge of each district school.

There can be no doubt that the lack of articulation between the elementary school and the high school, especially where the lower school had no organized system of gradation, was a serious difficulty to be met in the development of the high school which depended for its students on the lower school. It is not surprising, therefore, to find that the growth of the high school movement and the development of the graded schools replacing the district schools were contemporaneous. The complete abolition of the district school system of Massachusetts did not come about until 1882 but long before this the system had begun to give way until at the said date only forty-five towns out of a total of more than three hundred fifty still retained the district system.[5]

(4) *The College.* The Latin grammar school had for its aim the preparation of boys for the university. The college requirements until 1807 demanded only preparation in Latin and Greek. In that year Harvard added a little arithmetic and geography to its requirements. In 1820 algebra was added and in 1833-34 geometry. Other subjects were required later as indicated on page 66.

After the beginning of the high school period the practice of the high school and the legal requirement regarding studies antedated in all cases the requirements of the college. Thus, while the colleges may have affected the quality of the work done, and the attention paid to the various subjects, so far as the introduction of new subjects was concerned, the college did not affect the curriculum of the high school.

2. The High School Movement in Massachusetts

The high school movement in the United States was inaugurated by the establishment of the English Classical School of Boston in

[4] Cf. p. 61.

[5] Martin, George H., The Evolution of the Massachusetts Public School System, p. 8.

1821 and the foundation of that school marked the beginning of a new era in the history of public secondary education in this country. Up to that time the public secondary school in this country had been of a purely classical type borrowed from England, offering only such instruction in the Latin and Greek languages as would prepare a boy for college and through college for a professional life. Through the academy a new conception of the function of secondary education had developed, the need of an education which should prepare future citizens for an active life of business and for political services in the new democracy. Such a need was met by the people of Boston in the establishment of the English Classical School and by the state in the provisions of the law of 1827. The high school established by this law was, then, designed to provide not only training in the old way, but a training for all the people of the state.

(1) *The Establishment of High Schools.* The question of the establishment of high schools in Massachusetts has been treated in Chapter III. There it was shown that of the one hundred twenty high schools required by law up to 1860 (according to the census of 1855) eighty-six (or 67.2 per cent.) had complied with the mandates of the law and sixteen others not required by law to do so had established high schools. In all by 1860 one hundred two high schools had been established. Of these but eighteen had been established by 1840, forty-seven by 1850 and eighty-seven by 1855.

How many of these so-called high schools were really entitled to be so called it would be difficult to say. The question would depend on the interpretation to be given to the term "high school." Interpreted according to the strict meaning of the law probably few could have rightly claimed the title. Such an interpretation would, however, be altogether unfair in comparing them with other high schools. The question should rather rest on the criteria of their courses of study and gradation.

(2) *Studies Pursued.* The studies to be taught in the high schools of Massachusetts were specified by the law of 1827 and lated laws. These studies were by no means universally taught in the high schools of the state, but they formed a central core around which the subjects of the curriculum were grouped. On the other hand many high schools extended their curriculum so as to include within it many subjects which were not required by law.

Table XX presents a synopsis of the curricula of a selected

group of sixty-three towns and this material is further analysed in Tables XXI-XXV. From this material it is evident that a large majority of the high schools in the state by 1860 could meet any reasonable demands of a high school. At the lowest estimate the sixty-three included within the group considered could rightly lay claim to the title of "high school" on the basis of the studies offered in their curricula.

(3) *Gradation in the High Schools.* By 1850 the reports of the various towns show that the gradation of the high school curriculum into a course of studies covering from three to five years had become the common practice. In Table XXXIV are presented data which indicate that by 1860 there existed some seventy-two high schools whose published courses of study show the existence of a course of study which extended over from three to five years.

(4) *How many High Schools Had Been Established by 1860?* In the Introduction to this discussion attention was called to the inconsistencies manifest in several lists of high schools established in the United States previous to the Civil War. The question is a difficult one and depends for its answer on the meaning which we give to the term "high school." Data which will answer the question in a more or less satisfactory manner as far as Massachusetts is concerned have been presented in this discussion. According to the data presented in Table VI more than one hundred towns claimed to have established high schools in that state by 1860. Many of these had no legitimate claim to that title and several were merely temporary in their existence. Table XXXIV shows that seventy-two towns by 1860 had established high schools whose courses of study, as published in their reports, extended over a period of from three to five years. It would thus seem that the number of high schools in Massachusetts previous to the Civil War was in excess of sixty-eight.

3. Growth of the High School Movement in the United States

The high school movement in this country was initiated in Massachusetts. In that state the first school of the new type was founded, the standards which became the characteristic features of the public high school were established, and there the high school developed earliest and probably at its best.

For the first twenty years after the establishment of the English Classical (High) School of Boston in 1821 the progress of the movement was slow. Previous to 1840 not more than eighteen high schools had been founded in Massachusetts.[6] Outside of that state several high schools were soon founded, the movement first making some headway in the other states of New England, especially in Maine, which had been a part of Massachusetts until 1820. Portland, Maine, lays claim to a high school founded in 1821, Augusta and Brunswick in 1835 and Pittston in 1837. Here some claim, perhaps, may be made that this was due to the previous connection between Maine and Massachusetts. Among the many partial lists and conflicting statements which we find regarding the establishment of the early high schools, is one assigned by the author of the "History of the Central High School of Philadelphia," to Dr. E. E. Brown.[7] "I believe the Central High School of Philadelphia to be the first free public high school established outside of New England. . . . I find the following ten schools which seem to have been established as high schools in New England before the year 1838: 1. The English Classical School, now the English High School, Boston, 1821. 2. The High School for Girls, Boston, 1826. Discontinued 1828. Re-established 1852. 3. The High School, New Bedford, Massachusetts, 1827. Discontinued as a public school 1829. Re-established 1837. 4. The High School, Haverhill, Massachusetts, 1827. 5. The High School, Burlington, Vermont, 1829. 6. The High School, Lowell, Massachusetts, 1831. 7. The High School, Medford, Massachusetts, 1835. 8. The High School, Augusta, Maine, 1835. 9. The High School, Brunswick, Maine, 1835. 10. The High School, Pittston, Maine, 1837." Salem (1827) should certainly be included here and possibly others.[8]

In the following table are given data indicating roughly the development of the high school movement in the whole country by decades up to 1860. The figures are compiled from the data given in the report of the United States Commissioner of Education for 1904, pages 1782-1989. In the estimate are included all towns which claimed to have established high schools at the

[6] Cf. p. 46.
[7] Franklin S. Edmonds, *op. cit.*, p. 29.
[8] Cf. pp. 42-45.

date indicated in the report. The figures must not be taken in any exact interpretation. Probably not more than half of the high schools in operation in 1904 submitted returns to the Commissioner of Education, and, as tested in special cases, the information given is not altogether trustworthy. In many cases the dates given for the establishment were probably the dates of the establishment of academies from which the high school evolved. The dates before 1820 must have referred to a Latin grammar school or some private school.

TABLE XXXV

ESTABLISHMENT OF HIGH SCHOOLS IN THE UNITED STATES

	Before 1820	1820-30	1831-40	1841-50	1851-60	Total
Massachusetts	3	2	6	26	41	78
Vermont	1	1	2	2	3	9
New Hampshire	1	1	0	3	2	7
Maine	2	0	3	5	4	14
Connecticut	1	0	3	2	2	8
Rhode Island	0	0	0	3	2	5
New York	1	4	5	9	22	41
New Jersey	0	0	1	0	3	4
Pennsylvania	0	0	1	4	12	17
Ohio	0	0	0	15	33	48
Illinois	1	0	0	0	9	10
Indiana	0	0	0	0	9	9
Michigan	0	0	0	7	12	19
Wisconsin	0	0	0	1	6	7
All others	3	1	5	13	23	45
	13	9	26	90	183	321

From the above table it may be seen, so far as we may rely on these figures as representing the general trend of the high school movement, that about one-half of the schools which laid claim to the title of "high school" in 1860 were to be found in Massachusetts, New York, and Ohio. Except so far as Massachusetts is concerned the question of the number of these schools which were really high schools lies beyond the limits of this discussion. Of this, however, we may be sure, that many of the lists which have been given hitherto[9] are decidedly incomplete. For instance, the town of Marietta, New Hampshire, which appears in none of the lists examined, as early as 1856 had a high

[9] E. g. U. S. Commissioner's Report for 1903, pp. 563-4.

school which provided an excellent four year course in the English department and offered a separate classical course.[10] Likewise, at least as early as 1860, the Zanesville (Ohio) High School offered a five year classical course, a three year English course, and a "Partial" two years course.[11]

The growth of the high school in Ohio is of particular interest. The movement in that state began with the establishment of the Central High Schools at Cleveland and Columbus in 1846.[12] For the period until 1860 the state commissioner reports as follows: "There were few, if any, High Schools in the state fifteen years ago: and not more than twenty when our general school law was enacted in 1853. Since 1855 they have increased from 91 to 161, being an average increase of 12 per annum. During that time the teachers in these schools have increased from 196 to 319, and the pupils from 7,522 to 13,183. The growth of the High School System has not been remarkably rapid, but its progress has been sufficient to prove that it has been received with favor by the people in the large towns of the state."[13] The law referred to in the above quotation was the law passed March 1, 1853, giving each township board of education the power to establish high schools.[14]

Some figures for the years 1855-1860, taken from report of the State Commissioner of Common Schools, are instructive:

TABLE XXXVI

GROWTH OF HIGH SCHOOLS IN OHIO

Year	Number of High Schools	Number of Students	Reference
1855	97	8554	1856, pp. 54-56
1856	113	8372	1857, pp. 102-04
1857	139	10,829	1858, pp. 10-12
1858	151	10,518	1859, pp. 10-12
1859	161	13,183	1860, pp. 15-16

The discrepancy of these figures with those presented on page 155 will be noted.

Not only the institution itself but the subject matter to be studied in the high school was bequeathed by Massachusetts to

[10] By-laws and Report of the Board of Education, 1856, p. 13.
[11] Seventh Annual Report of the (Ohio) State Commissioner of Common Schools, 1860, pp. 91 ff.
[12] See the Cleveland report for 1861-2, p. 10.
[13] Seventh Annual Report of the State Commissioner of Common Schools, 1860, p. 45.
[14] Laws of Ohio, 1853, LI, vel. Stat. 429.

the other states. The following data regarding the studies offered in the high schools of Ohio in 1855-56 will illustrate this fact. The figures are taken from the Third Annual Report of the State Commissioner of Common Schools for the year ending August 31st, 1856, p. 6:

TABLE XXXVII

NUMBER OF PUPILS STUDYING VARIOUS SUBJECTS IN OHIO IN 1855-56

Subject	Pupils	Subject	Pupils
Alphabet	42,448	Moral Philosophy	276
Spelling	270,745	Mental Philosophy	212
Reading	299,002	Chemistry	415
Penmanship	249,922	Rhetoric	404
Orthography	277,339	Astronomy	655
Mental Arithmetic	82,640	Geology	297
Written Arithmetic	166,665	Zoology	165
Geography	90,784	Latin	675
English Grammar	63,414	Greek	113
Physiology	2,571	German	903
Map Drawing	9,023	French	180
Composition	15,201	Bookkeeping	63
Declamation	23,909	Botany	53
Elements of Drawing	2,496	Uranography	40
Vocal Music	26,070	Natural History	20
History	5,824	Butler's Analogy	10
Algebra	5,790	Trigonometry	5
Geometry	934	Surveying	1
Natural Philosophy	1,167		

With the exception of the importance of German, caused then as now in that same state by local conditions, the studies of the Ohio high schools were approximately the same as those of the Massachusetts high school.

In the larger cities throughout the country where high schools were established the standards for those schools and the courses offered were as high if not higher than those of Massachusetts. In evidence of this compare the courses of the following cities with any of the courses of study offered in Massachusetts: Buffalo, N. Y. (Superintendent's Report for 1858, pp. 24, 25, 28); Cincinnati, Ohio, Woodward and Hughes High Schools (Report of the Trustees, etc., for 1852, pp. 57 ff.); Chicago, Ill. (Report of the Board of Education for the year ending February 1, 1861, pp. 130 ff.); St. Louis, Mo. (Report of the President, Superintendent, etc., for the year ending July 1, 1859, Appendix, pp. XL ff.);

Kalamazoo, Mich. (Catalogue of the Officers, etc., of the Kalamazoo Public Schools, for the school year 1859-60, pp. 26 ff.); Battle Creek, Mich. (Rules and Regulations adopted by the School Board Feb. 28th, 1860, pp. 8 ff.); Adrian, Mich. (Annual Catalogue for 1857-8, pp. 28 ff.); Manchester, N. H. (Regulations, etc., October, 1846, pp. 5 ff.); Schenectady, N. Y. (Report of the Board of Education April 23, 1856, pp. 26 ff.); Ann Arbor, Mich. (Report for 1858-9, pp. 35 ff.); Providence, R. I. (Report of the School Committee, 1857, p. 17); Grand Rapids, Mich. (Catalogue of Officers, etc., 1860-1); Zanesville, Ohio (Eleventh Annual Report of the State Commissioner, for the year ending August 31, 1860, pp. 91 ff.); Marietta, N. H. (Report of the Public Schools, 1856, pp. 13 ff.); Cleveland, Ohio (Report of the Board of Education, for the year 1855-6, pp. 75 ff.).

The type of high school which originated in Massachusetts shows no direct influence coming from secondary institutions in Europe. In a few cases there developed in this country "high schools" which were directly influenced by European institutions. Such was the High School for Boys opened by the High School Society of New York March 1, 1825. This institution was more or less modeled on the Edinborough High School and its establishment was brought about in part as a result of the report on the Scotch school by John Griscom. The school was discontinued about 1831.[15]

Another instance of direct European influence was to be found in the Central High School of Philadelphia, established in 1838. "The educational history of the High School commences with Dr. Bache's report to the High School Committee, which was presented December 10, 1839. Previous to this keen analysis of the function of the school there had been competent instruction, but there was no complete grasp of the situation. Bache was fresh from his European investigation, where he had been favorably impressed with the Prussian system, by which boys intended for the learned professions are educated in the classical courses of the 'Gymnasia,' while those intended for business life

[15] See Griscom's account of his European travels in the *American Review* for 1824, the account of the High School Society of New York in Dr. Elmer E. Brown, The Making of Our Middle Schools, pp. 304-310, and the Reports of the High School Society of New York.

pass the corresponding period in the study of science and modern languages in the 'Real Schools.' He submitted to the Philadelphia Committee a sketch of the Leipsic system, and pointed out that just as our public schools supplied the place of the elementary schools abroad, so our High School should correspond to the 'Gymnasia' and the 'Real Schools.' It should prepare one group for the university, where they would enter upon professional study; it should prepare another group for active business life."[16]

The plan for the organization of the school was based on the recommendation of Dr. Bache, who drew a part of his ideas from the Prussian schools and part from the course at West Point, of which he was a graduate, and where he had been assistant professor of engineering, 1826-1828.[17] The early course of studies did not differ radically from the type of school represented in Massachusetts, but the plans of its supporters were more ambitious and the school continued to extend its scope until in 1849 the Central High School was granted by the legislature the power to confer academic degrees, honorary and otherwise, such as was possessed by the University of Pennsylvania.[18] Lack of space forbids here a more extensive discussion of the course of study and the general economy of the type of high school represented by the Central High School of Philadelphia, but enough has been said to indicate the difference in origin, aim, general economy, and historical development between the type here represented and that represented by the Massachusetts high schools. Further information regarding the Philadelphia school may be found in the history of that institution prepared by Franklin S. Edmonds and in the reports of the Controllers of the Public Schools of the City and County of Philadelphia.

With the exception of such institutions as that maintained by the "High School Society" of New York, which showed Scottish influence, and the Central High School of Philadelphia, which was influenced by German school practice, and with the further possible exception of such institutions as were represented by The College of the City of New York and The Baltimore City Col-

[16] Edmonds, Franklin S., History of the Central High School of Philadelphia, p. 61.
[17] *Ibid.*, pp. 62-66, 319.
[18] *Ibid.*, p. 130.

lege, the high schools of this country owe the basis of their aim, theory, and practice to the high school first created and earliest developed in Massachusetts. As in most other educational matters Massachusetts led the way in the older Latin grammar school education and in the newer type of secondary education—the public high school. It is all the more to her glory that no direct influence from other countries has been traced in regard to the high school system. The American high school was an institution peculiarly adapted to the needs and wants of the American people and is an everlasting tribute to the democracy of Massachusetts and America.

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